The Journal

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Entered as second-class matter, May 2, 1914, at the Postoffice at Topeka, Kansas, under the Act of March 3, 1879. Accepted for mailing at special rate of postage provided for in Section 1103, October 3, 1917. Authorized on July 2, 1918.

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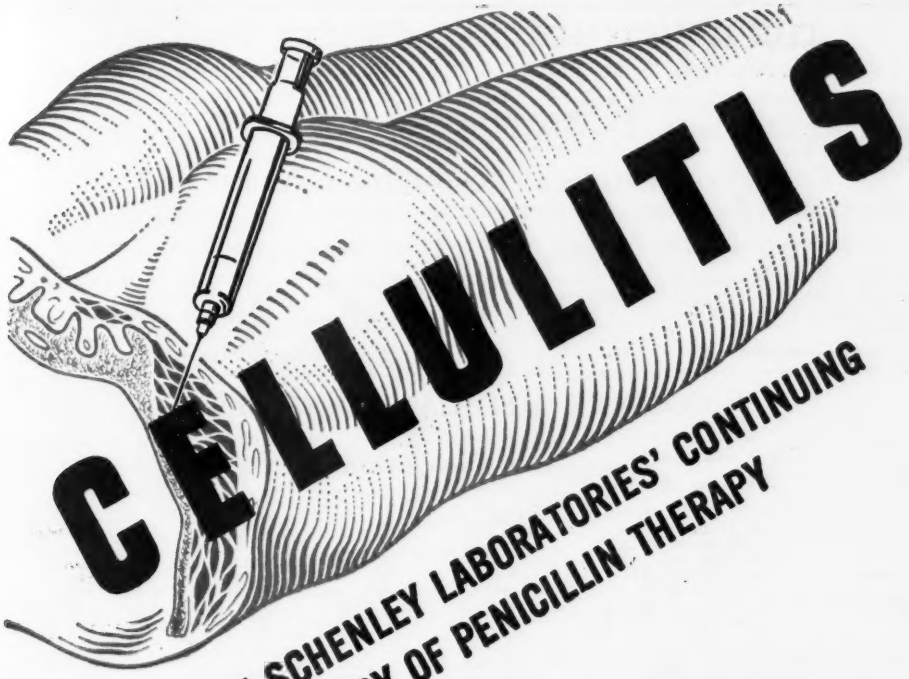

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Feinberg, S. M.: Allergy in Practice, Chicago, The Year Book Publishers, Inc., 1944, p. 502.

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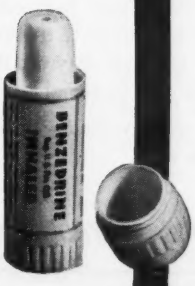

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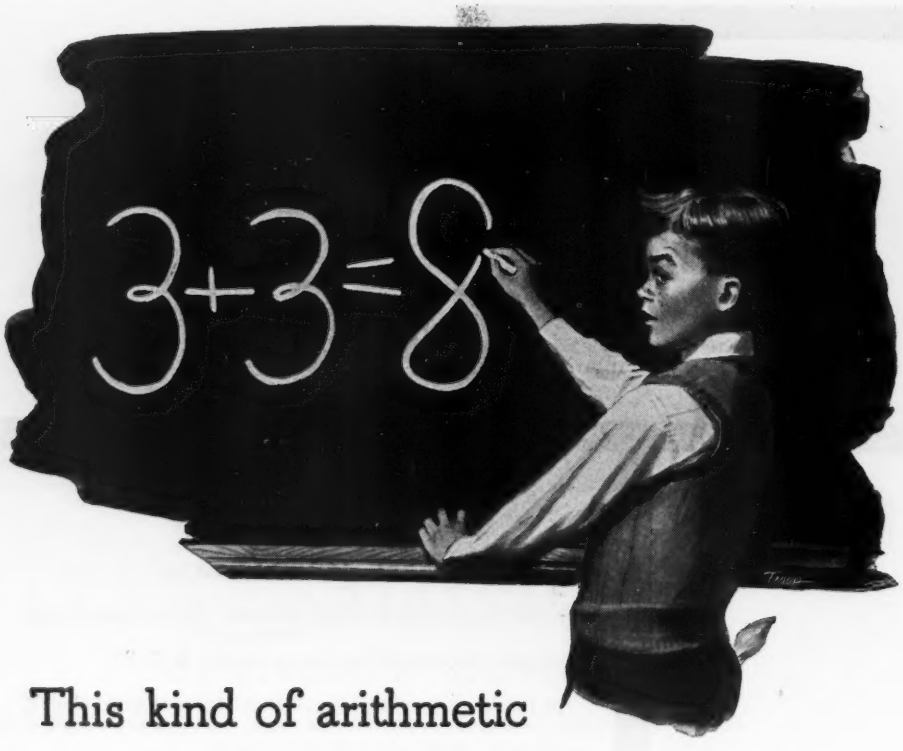

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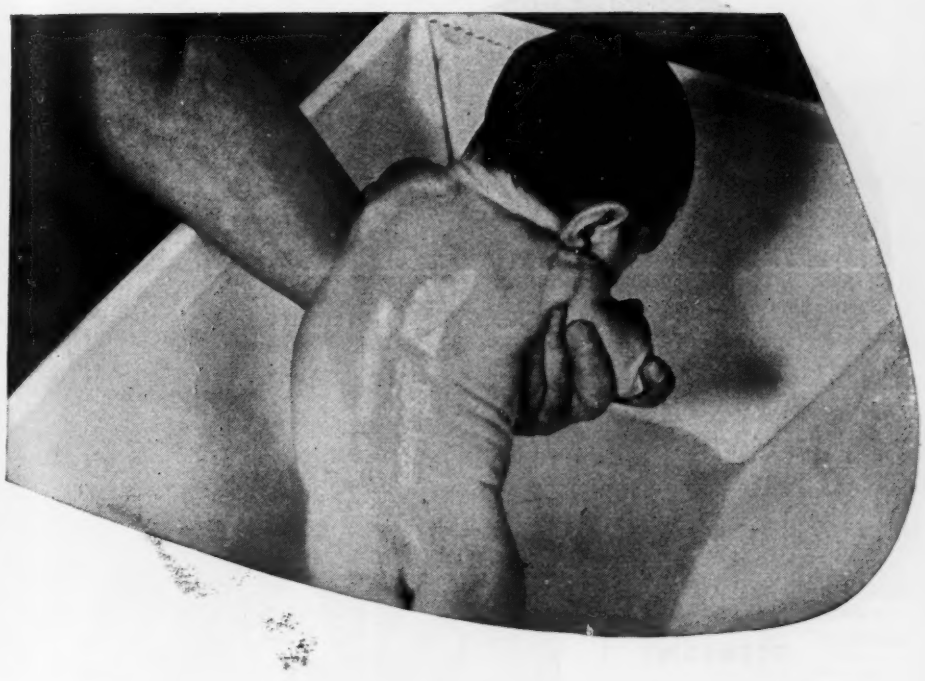

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of the
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Volume XLVII SEPTEMBER, 1946 Number 9

TRAUMATIC INTRACRANIAL HEMORRHAGE FOLLOWING CLOSED HEAD INJURY*

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Topeka, Kansas

The interest in conditions related to traumatic brain surgery has been greatly stimulated during the past few years because of the frequency of penetrating shell wounds of the skull and brain. Much has been learned, and neuro-surgery has made definite progress in the adequate treatment of cerebral wounds and their complications, which six years ago might have been considered rather unfavorably. In the direct or open brain injury involving destruction along the path of the missile with loss of cerebral substance, the gross pathology has been fairly obvious, and the surgical treatment correspondingly straight forward.

This paper omits, in the main, the problems associated with penetrating wounds of the head, and confines itself to the proposition of intracranial hemorrhage due to closed head injuries only. We are all cognizant of the fact that varying degrees of intracranial hemorrhage are one of the commonest sequelae of head injuries. With the frequency of automotive accidents, injuries of the head assume serious medical as well as surgical importance. Experience has taught that there can be no advocacy of one method of therapy in all injuries to the head accompanied by cerebral trauma. And it is equally true that there can be no hard and fast division of the clinical symptoms or the pathological changes which accompany craniocerebral injuries. Each head injury is an individual problem and may have to be treated by a combination of methods. I shall attempt here a brief review of the various categories usually included in intracranial hemorrhage using the histories of exemplifiable cases which I have had, and presenting only the pertinent facts thereof.

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**Neurological Surgeon, Winter General Hospital (Veterans' Administration).

EXTRADURAL HEMORRHAGE

This type of bleeding occurs from a tear of one of the branches of the middle meningeal vessels; it should be noted, however, that it may also occur from a tear of one of the venous sinuses. There is usually seen a fracture in the vicinity of the squamous portion of the temporal bone crossing over the line of the middle meningeal; but, again, a fracture does not necessarily have to be present. The elastic recoil of the skull, following the trauma, produces an initial separation of the dura from the inner table—this separation will increase as blood is poured out. There may be a lucid interval of one or more hours before symptoms of compression become manifest. There may be a dilatation of the pupil on the homolateral side due to the third nerve becoming stretched on that side. The extradural blood is unable to reach the subarachnoid space so that, usually, there is no blood in the spinal fluid if a tap is done. However, if there has been "contrecoup injury" to the cortex of the opposite cerebral hemisphere, blood will be present in the spinal fluid. This condition, unless promptly treated by surgery, usually proves quickly fatal.

CASE No. 1. J.T., age 23, was found on the 12th of June, 1945, unconscious—presumably knocked down by a vehicle. He remained unconscious for a day and a half, and then was very irrational and showed a weakness of his right arm and leg. He gradually improved, and was admitted to my hospital on the 30th of June—18 days after injury. On examination he was rational and well oriented. The cranial nerves were intact though the fundi showed a slight obscuration of the disc margins. His neurological status was normal and all his reflexes were physiological—except that he showed a very mild residual weakness in his right upper extremity. Plain films of the skull showed a linear fracture in the left temporal region. He remained completely asymp-

tomatic and was up and around. On the 5th of July, three weeks after his original injury, an oxy-encephalogram was done. To my great surprise he showed a marked displacement of the left lateral ventricle to the right—indicative of an unsuspected, large space occupying intracranial clot; because his spinal fluid was normal the preoperative diagnosis was an extradural hematoma. The following day a left myoplastic craniotomy was done and a large extradural clot was removed. Prior to his discharge less than a month later, an oxy-encephalogram was repeated which showed a return of the displaced left lateral ventricle to its normal position.

Comment: This case shows

1. That one may have a chronic extradural hematoma—though this is not common.
2. The necessity for an air study in any head injury where there is the slightest evidence of residual cortical disturbance.
3. It is possible to have a large intracranial clot without any gross abnormality found in spinal fluid study.
4. The relationship between the site of the fracture line and the grooves for the middle meningeal vessels.

CASE No. 2. P.C., age 22, was in a vehicle accident about midnight the 14th of February, 1945. He was brought in directly to my hospital. He was comatose and, on examination, he had a dilated and fixed pupil on the right, as well as extensor rigidity of his left extremities. X-rays of skull showed a fracture in the right temporal extending horizontally backward. He was immediately operated upon (within five hours of his injury) for an acute extradural hematoma. A large extradural clot was found which extended backwards toward the occipital region. There was no bleeding from the middle meningeal. The right subtemporal craniotomy was enlarged, in order that the source of the bleeding could be adequately searched for posteriorly. The dura over the occipital lobe was depressed five centimeters from the inner table by the tremendous clot—and when the latter was removed, it was very apparent that the gushing blood came from two tears in the lateral sinus. With difficulty, this was eventually controlled with "fibrin foam". The wound was then closed, and his general condition slightly improved for three days, though he never regained consciousness nor was there any change in his right pupil which remained fixed and dilated.

On the fourth postoperative day he very suddenly deteriorated, and because of the possibility of a recurrent right extradural hemorrhage, his operative wound was reopened. There was no extradural clot found, but the dura was surprisingly tense and when this was opened, about forty ccs. of yellow subdural fluid came away, and in the antero inferior part of the exposed brain, one found a lot of softened and necrotic brain tissue which was evacuated, leaving a large cavity in the temporal lobe. He was left with a large bony decompression and his general condition at the end of the procedure was somewhat more favorable. However, he died two days after his second operation.

Comment:

1. This case presents, then, an example of a massive extradural hematoma resulting from a tearing of the lateral sinus with signs of brain stem compression prior to his initial operation.
2. He showed the localizing value of the dilated pupil; but he showed, too, the grave prognosis which a fixed and dilated pupil portends. When a dilating pupil becomes fixed, it means that the brain stem compression and the resulting intrinsic damage is irreversible.
3. In spite of the apparent tremendous intracranial space which was left after the removal of the clot in the first instance, the brain was tight at the second operation because of acute cerebral oedema which resulted from the severe trauma.
4. He developed an underlying acute subdural hygroma which in this instance was due, probably, to a valvular tear in the arachnoid.
5. He had an explosion of his left temporal lobe which was unrecognized at the first operation.

SUBDURAL HEMATOMA

Subdural hemorrhage differs from the extradural type in various ways. It is venous in origin, from a cortical vein—usually of slow development and the initial trauma can be so slight or trivial that it may be forgotten by the patient, until it is unveiled by leading questions in the history. The site of the blow is commonly at the frontal or occipital region and includes such innocuous knocks as bumping the head against a door, or wash basin and so on. The long interval which may be present between the receipt of the minor injury and development of symptoms tends to camouflage the traumatic basis of the condition. The mechanism usually accepted is that a cerebral vein passing from the cortex to a venous sinus is ruptured owing to the brain being suddenly jolted. There is usually no papilloedema and the spinal fluid pressure may be normal though the fluid slightly yellow. On percussion over the head, tenderness may be elicited over the site of the hematoma. The hemorrhage may be diffuse covering the greater part of one hemisphere or it may be localized to one part of the subdural space due to the

rapid clotting of the blood. Thus, it may give rise to definite local signs and symptoms and, in this form, is referred to as a "chronic traumatic subdural hematoma." The blood rarely spreads directly from one hemisphere to the other, unless the injury is at the base of the brain. However, it is important to remember that bilateral subdural hematomata may occur in as high as 25 per cent of all cases, owing to the injury concomitantly produced on the other side of the brain, at the point of contrecoup. Where there is an associated large tear of the arachnoid, as is apt to occur near the basal cisterns, blood will freely escape into the subarachnoid space and thus appear in the cerebro spinal fluid. To enumerate briefly the changes which the clot may undergo—

1. A portion of the blood may be absorbed, the greater part however becoming encysted.
2. The clot becomes softened and liquefied.
3. An envelope is formed around the clot which at first consists of fibrin and later of a very tough fibrinous membrane—the outer membrane being usually very much thinner than the inner or medial membrane related to the hemisphere.
4. The contents alter in color with time as the blood pigment is absorbed, and masses of cholesterin crystals are formed.
5. The cyst wall cannot usually be as readily stripped from the inner surface of the dura as it can be from the brain surface.
6. As the contained red blood cells break down liberating hemoglobin, there is a gradual rise in the osmotic pressure within the cyst—thus the adjacent cerebro spinal fluid of the subarchnoid space is drawn into the cyst. It is also possible for recurrent hemorrhage to occur.
7. So the space occupying mass "grows" which explains the onset of symptoms suggestive of a cerebral tumor—sometimes months or even one or two years after the original injury. Rarely, the hematoma may fibrose or calcify or become infected.

CASE No. 3. J.H., age 37, was in a jeep accident in Holland on the 15th of July, 1945, and sustained a severe closed head injury; he was unconscious for ten hours following which he was markedly confused and disorientated. He had a definite dysphasia but showed no gross motor weakness nor sensory deficit in his extremities. Sixteen days after injury he was admitted to my hospital at which time he was conscious but disorientated and showed a marked mixed aphasia with almost a complete inability to name objects. His other abnormal neurological signs were minimal—slight right central facial weakness, tongue protruded slightly to the right of the midline, slight generalized weakness right upper extremity. Plain films of the skull showed a linear fracture on the right side in the temporal region. The pineal gland was not visible. Lumbar puncture showed the fluid to be grossly bloody containing 1,860,000 red cells. The preoperative diagnosis here was that of a severe closed head injury with linear fracture of the skull on the right side, and left subdural hematoma with contrecoup lacerations of the left side of the brain in the region of the motor speech area. He was operated on two days after admission (18 days after injury), and a large left parieto temporal flap was made. The exposed dura had the characteristic greenish blue discoloration associated with an underlying hematoma. The dura was turned down in the form of a flap and a fleshy, plancenta-like subdural hematoma exposed (Figure 1).

FIGURE 1
Left side of brain exposed. Brain retractor is elevating a large fleshy subdural hematoma seen at the level of the Sylvian fissure.

There was no inner membrane, but rather extensions of the clot from its deep surface into the cerebral cortex along the Sylvian fissure. Several large cortical vessels, which ran from the brain surface into the clot, were diathermized after silver clips were applied; the clot itself was nibbled away bit by bit. At the end of the intracranial procedure the flap was then replaced and sutured into position (Figure 2). One month later, at which time he was discharged, his neurological status was completely normal, save for a slight hesitancy in naming objects. It is interesting to note that prior to operation he only scored 30% in his test on the dysphasia chart, whereas two weeks after operation he scored 96% correctly—this in spite of the fair amount of actual brain laceration seen in the vicinity of the speech area at the time of operation.

CASE No. 4. C.M., age 24, injured on the continent 14 August, 1945—details unknown. He sustained a severe closed head injury and was unconscious for several hours, thereafter remained drowsy and confused. He was admitted to my hospital on

the 22nd of August, 1945, (9 days after injury) still confused and rather drowsy. Plain films of the skull showed a linear fracture of his left zygomatic arch without displacement; there was no fracture of the skull proper. His neurological examination showed only minimal lateralizing signs, namely slight central weakness of the left side of the face,

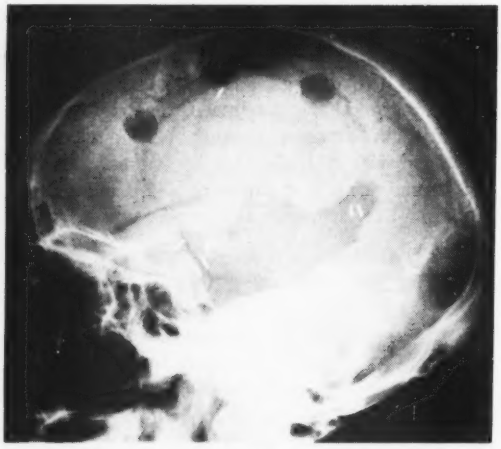

FIGURE 2
Photograph of left lateral x-ray of skull, post-operatively. This shows the osteoplastic flap with the decompression at its base. Silver clips are seen which were applied to cortical vessels, mainly in the region of the Sylvian fissure, that were feeding the sub-dural hematoma.

and a slight weakness of his left upper extremity with diminished abdominals on the left side; his plantar responses were bilaterally extensor. His lumbar puncture pressure was 350 but the cells were normal and the total protein was not elevated. Recheck of his skull films showed a pineal shadow in lateral projections only; this shadow was not visible in the AP view. On the basis of his lateralizing signs, we suspected a subdural hematoma on the right side. On the third day after his admission, he had a bout of vomiting and his blood pressure began to rise. Operation was prepared for and then a small oxy-encephalogram was done giving the patient at the same time hypertonic glucose intravenously; he tolerated this procedure very well.

The encephalogram (Figure 3) showed both ventricles to be on the large side of normal, the left one larger than the right in the anterior and mid portion, but smaller than the right in the posterior part. There was a slight shift of the third ventricle to the right and the most interesting finding in this air study was the shadow of the epipineal recess which showed a shift to the right of one-half inch. This finding of homolateral signs, due to a large space occupying lesion above the tentorium, is certainly uncommon and is explained by the shift of the brain stem as well as the hemisphere, in this instance, towards the right with *compression of the right cerebral peduncle* against the free edge of the tentorium. He was operated on forthwith, and a left fronto-parieto-temporal osteoplastic flap made; a large, diffuse, fluid subdural hematoma was removed. There was no definitely formed inner or outer membrane, though there were some small shaggy organized clots on the inner surface of the dura. The dura in this instance was left open in anticipation of postoperative edema and a small subtemporal decompression was done prior to replacing the bone flap. A burr hole was then made on the right side to rule out a bilateral subdural. Because of the mid-brain compression preoperatively, his convalescence was ex-

FIGURE 3
Photograph of PA and left lateral of skull, following encephalography, which shows the slight shift of the 3rd ventricle to the right and also the shadow of the epipineal recess which is displaced to the right.

pected to be rather stormy for the first few days—and so it was. He was put on luminal following two convulsive seizures which he had in the first 24 hours; these did not recur.

His left sided weakness improved and he became asymptomatic. A repeat air study done prior to his discharge about 4 weeks later showed the epipineal recess and ventricular system to be in normal position. There was a suggestive residual atrophy of the left hemisphere.

Comment:

1. This case indicates an example where the clinical neurological signs might have misled one to plan the operation "on the wrong side"; it certainly is rare to have homolateral signs on the basis of a large supratentorial space occupying mass.
2. Where the pineal shadow is not visible in the AP view, one may be fortunate with the air study to visualize the epipineal recess—the latter normally is in the midline and if displaced has the same significance as a displaced pineal shadow.
3. In spite of the large fluid subdural hematoma without well formed membrane, the cytology and chemistry of the lumbar spinal fluid was normal.

CASE No. 5. J.R., age 36, was injured on the 26th of May, 1945, in a vehicle accident. He sustained lacerations in his right parietal scalp, bleeding from his left ear and he was immediately unconscious. He was kept in another hospital for five days and then, when they noted that his coma was increasing, they did a lumbar puncture which showed a pressure of 300 and the fluid heavily blood stained. He was transferred immediately then to my hospital—at which time he was unconscious and responded only to very painful stimuli; he had bilateral papilloedema; he had a left peripheral facial palsy and his plantar response was equivocal on the left and flexor on the right. His X-ray showed a linear fracture of the left occipito-masto-temporal region. He had no visible pineal but he did have something which helped us more definitely in the localizing diagnosis—calcification in the glomus of both choroid plexuses with displacement of the left one towards the right (Figure 4).

He was immediately operated upon for an acute left subdural hematoma; there was an associated laceration of the brain in the temporo-parietal lobe—and this necrotic brain tissue was carefully removed. The dura was closed. The patient had an uninterrupted convalescence and showed no residual neurological signs apart from his left peripheral facial palsy. Air study done prior to his discharge showed moderate symmetrical dilatation of his ventricular system. Films showed return of the displaced left glomus to its normal position. (Figures 5 and 6).

Comment:

1. Emphasizes the need for cases who are un-

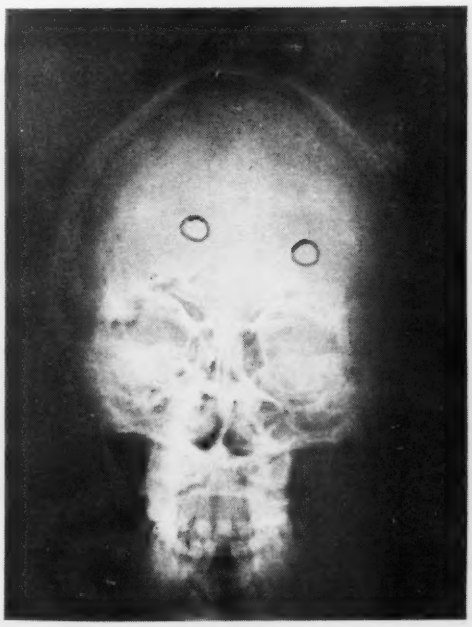

FIGURE 4
Figure 4 shows the displacement of the left choroid plexus upwards and medially.

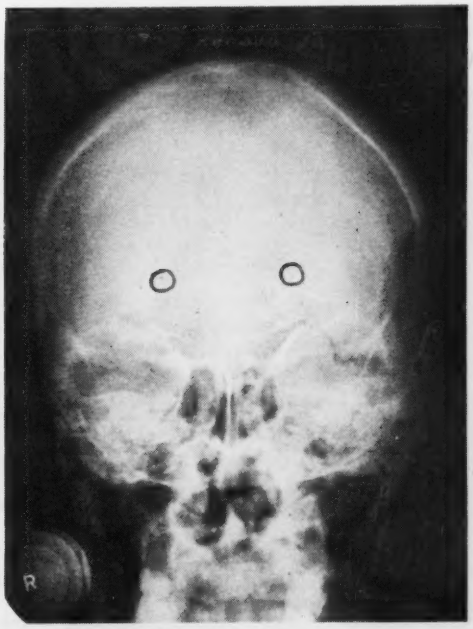

FIGURE 5
Post-operative film to show the return of left choroid plexus to its normal position.

conscious following head injury to be *immediately* thoroughly assessed from the neurological point of view and to be very carefully observed from then on with adequate supervision.

2. In any case where papilloedema is already evident, it is most dangerous to do a lumbar puncture; it is uncommon to find papilloedema within a few days after a closed head injury.
3. The value of adequate stereoscopic skull films is evident in this case—calcification of the glomus is uncommon—present in about eight per cent of cases.
4. It is felt that an air study following operation in closed head injury is of value because it shows the degree of an atrophic process which may occur—it also consoles the surgeon to be certain that the displaced ventricular system has resumed its normal position.

CASE No. 6. J.M., age 25, was admitted to the neuropsychiatric service of my hospital because of increasing headaches and recent weakness of the left arm and leg. Examination showed him to be drowsy with almost a complete left hemiplegia without any visual field defect. He showed signs of increased intracranial pressure—spinal fluid pressure 550, the fluid being clear and colorless and containing one lymphocyte; he had bilateral papilloedema. X-ray showed a small linear fracture in the right frontal region and a small foreign body, presumably gravel, in the right frontal scalp. These two findings suggested definitely trauma as the cause, and armed with this knowledge, the patient was requestioned. He eventually remembered having been thrown from a jeep, two months before the onset of his present illness; he remembered striking his head lightly and was only slightly dazed and therefore thought this injury to be of no consequence. These facts altogether seemed to point to a subdural hematoma, on his right side, as the most likely diagnosis. Consequently, a burr hole was made in his right parietal region, and when the dura was opened we were greatly surprised to get about 35 ccs. of thick greenish pus. The operation was completed by doing an extensive craniectomy with a complete evacuation of pus from this subdural empyema. Penicillin was instilled locally and the dura and scalp were tightly closed. The origin of this subdural abscess is obscure, but one might speculate that he had first a subdural hematoma as a result of his apparently mild injury, and this subsequently became infected through the linear fracture. His profound hemiplegia improved sufficiently to allow him to be a walking patient; subsequent air study prior to his discharge from hospital showed no evidence of any space occupying lesion, but only mild dilatation of his right lateral ventricle.

SUBDURAL HYGROMA

Subdural hygroma is a collection of spinal fluid in the potential subdural space. These localized pools of fluid may be large enough to produce compression signs. There are several theories on its mechanism of formation. It is thought that following an injury where the arachnoid is torn, the cerebro spinal

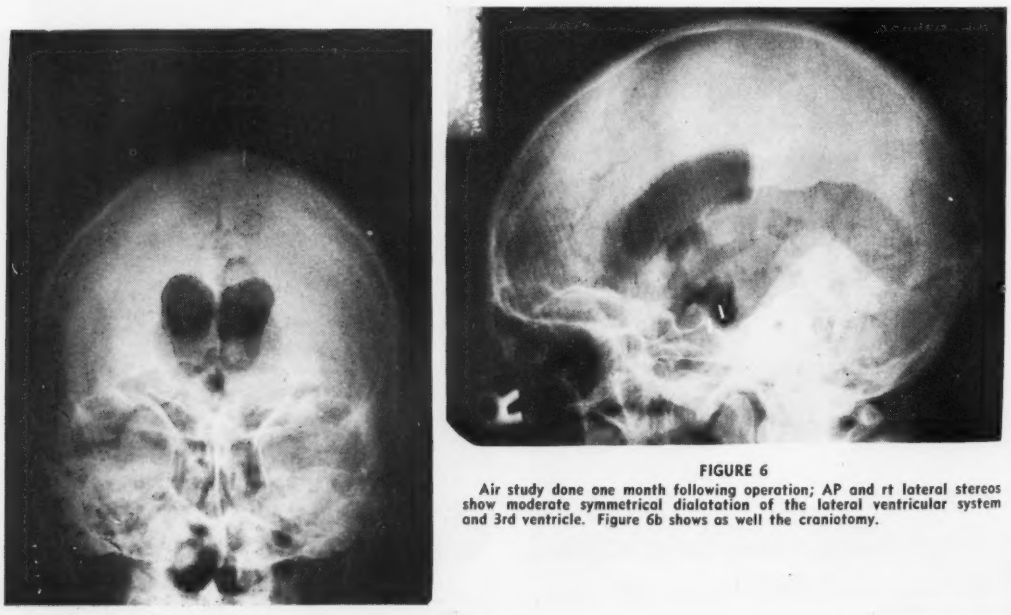

FIGURE 6

Air study done one month following operation; AP and rt lateral stereos show moderate symmetrical dialatation of the lateral ventricular system and 3rd ventricle. Figure 6b shows as well the craniotomy.

fluid is allowed to escape from the subarachnoid space into the subdural space and the tear in the arachnoid acts as a one-way valve which allows fluid into this potential space but not out of it. Another theory is that the injury to the lining cells of the subdural space results in a transudation of fluid into that potential area. The fact that the protein content of the fluid, in the subdural hygroma, is frequently higher than that of the normal cerebro spinal fluid may support the theory of its formation. A third possibility is that the subdural hygroma represents the end results in the phases of change in what was originally a subdural hematoma.

CASE No. 7. A.E., age 33, received a closed head injury in Germany early in 1945 and was found lying in a field. He was brought into my hospital in the middle of May and he was a cadaverous, emaciated looking individual weighing only about 80 pounds, though he was 5 feet, 10 inches in height. On examination he showed a complete right hemiplegia and complete aphasia, with all the classical neuropathological signs. Lumbar puncture showed no elevation of pressure but I felt that because of his emaciated, dehydrated state, pressure reading was not significant.

X-ray of skull showed a linear fracture in the left parieto temporal region; pineal gland was not visible. The preoperative diagnosis was possible left subdural hematoma. A left subtemporal craniotomy was done, and when the dura was carefully opened, 50 or 60 ccs. of golden yellow fluid escaped, beneath which was seen a fine membrane adherent to the surface of the arachnoid. Following the operation he began to speak and move his right limbs—within five days. With forced feeding his weight increased and prior to discharge a month later he was able to walk around the ward with assistance. I had a letter from him at Christmas time and he was in South Africa, which is his home, working in the office of one of the oil companies there.

SUBARACHNOID HEMORRHAGE

The spontaneous type of subarachnoid hemorrhage is usually due to a rupture of a small berry aneurysm on the circle of Willis or middle cerebral artery. Time will not permit any discussion of this problem—but I would like to emphasize that the idea that this domain is distant from the therapeutic realm of surgery belongs to the past.

The traumatic type of subarachnoid hemorrhage, by itself, is usually not a surgical problem unless associated with damage to other parts of the cranial contents. When the hemorrhage is into large cisterns at the base of the brain, death may quickly result from pressure on the medulla. Over the cortex, where the subarachnoid space is subdivided by numerous trabeculae, the blood will infiltrate this network and usually a large and massive clot will not be formed. The spinal fluid will show varying amounts of blood, and after four hours the fluid may be xanthochromic. The latter increases in intensity during the first week and usually fades within three weeks.

INTRACEREBRAL HEMORRHAGE

1. Spontaneous rupture of an artery in the interior of the brain, at present, is a condition of interest mainly to the physician rather than to the surgeon, though this may not remain so in the future.

2. Traumatic intracerebral hemorrhage falls into two large groups.

A. There may be numerous small punctate hemorrhages scattered throughout the entire brain—very often seen in cases even where the skull is not fractured. The mechanism of production may be explained by a sudden wave of cerebro-spinal fluid from the subarachnoid space, into the perivascular extension of that space, into the brain, producing a stretching of these fibrillary extensions from the vessel walls, which in turn injures the delicate wall at the point of stretching and tearing.

CASE No. 8. W.W., age 29, was injured in a jeep accident, and sustained a very severe closed head injury. He was admitted to the hospital one hour after injury. He was comatose, had inactive pupils —the right one was larger than the left and was fixed; he had spastic limbs with reflex mass extension, on stimulation. His temperature was 106 degrees F. It was concluded that there had been very severe bilateral cerebral contusion with no lateralizing sign but signs of brain stem involvement. X-ray of skull showed no fracture. He was given all supportive measures, but deteriorated rapidly and expired five and a half hours after admission. At autopsy, he had no demonstrable fracture of the skull or involvement of any other organ except the brain. (Figure 7).

B. One may have a large localized intracerebral hemorrhage resulting from laceration of the brain. The hemorrhage originates from the cortical surface and then extends for some distance into the depths of the brain—even into the ventricle.

A more uncommon occurrence is the onset of symptoms of cerebral hemorrhage some days after the receipt of an injury to the head. This is explained by focus of cerebral softening due to the trauma inplicating an adjacent vessel which later ruptures resulting in a secondary hemorrhage.

CASE No. 9. J.P., age 30, had a tangential shrapnel wound of the left side of the head resulting in a compound depressed fracture in the left mid-parietal region. He was operated on the next day at a mobile

neurosurgical unit with complete debridement of the scalp wound and removal of the depressed fractured bone. The dura was completely intact and though he had a right hemiplegia and dysphasia, there was no evidence on looking at the exposed dura that lacerated brain was beneath it; and, therefore, the dura was not opened. He was admitted to my hospital six days later at which time he was semiconscious and still showed a right hemiplegia. The spinal fluid pressure was only a little higher than normal but the cytology and chemistry were normal. He was considered a possible candidate for a left subdural hematoma or diffuse left sided cerebral contusion or left intracerebral hemorrhage. He was treated conservatively, watched carefully under the standardized neurosurgical regime, and five days after his admission it was noted that he was a little drowsy and for the first time his left pupil was larger than the right and reacted only sluggishly. He was operated upon immediately, and a large left frontoparietal flap turned down. The dura was quite tense and this was opened widely. Directly beneath the site of the original depressed fracture, there was seen projecting through the surface of the brain, the superficial part of an intracerebral clot. The whole intracerebral clot and fluid component thereof was evacuated—this was very extensive and, when removed, the brain sagged like a deflated bag. The flap was replaced, and at the end of the operation it was gratifying to note that both pupils were of normal size, equal, and reacted actively to light. He had an uneventful postoperative course and, prior to his discharge one month later, his right hemiplegia improved sufficiently for him to walk around the hospital, and his aphasia improved to the degree that he could converse with his friends—though very slowly.

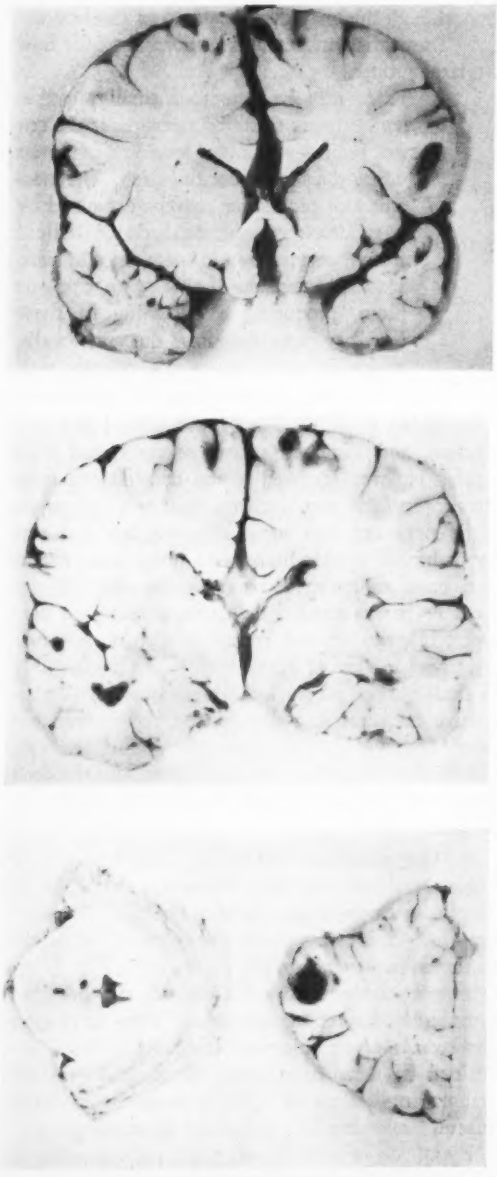

FIGURE 7

Figure 7a and 7b coronal sections of the brain showing numerous areas of intra-cortical and intra-cerebral hemorrhage. 7c—section through pons and through occipital lobe similarly show areas of hemorrhage.

CASE No. 10. J.M., age 23, was injured on the 27th of February, 1945, sustaining a compound depressed fracture in the right frontal area with only slight dural penetration and minimal local brain injury. He was operated on next day at the mobile neurosurgical unit where complete debridement of the wound was done, depressed fracture removed, the small amount of damaged brain tissue removed, and the dura closed. He was admitted to my hospital on the 1st day of March, 1945, at which time the neurological status was entirely normal except for a central right facial weakness. About five weeks after his admission, while he was awaiting his return to Canada, he complained suddenly of severe headache and then vomited. Within the next hour he had a focal seizure starting at the left angle of the mouth, with posturing of the extremities, suggestive of decerebrate rigidity. He had an apparent left hemiparesis. Lumbar puncture showed a pressure of 410, the fluid appearing grossly blood stained. The preoperative diagnosis was a right intracerebral hemorrhage. The original wound was excised and a large osteoplastic flap turned down. The dura was extremely tight and bulging and it was widely opened. The brain, at the site of the first operation, appeared necrotic and at this defect in the cortex one saw a clot. This was enucleated with the finger, and it was found that the clot extended anteriorly

into the frontal pole as well as posteriorly. When this was removed, the clot was still seen to extend inferiorly and, as this was carefully teased out of its bed, one then found that it came out of the anterior horn of the right lateral ventricle, the floor of which was well visualized and from the floor there was an active bleeder. This was dealt with by a small piece of fibrin foam. He had a stormy postoperative course, because of the local edema related to the ventricular floor, but he improved slowly and prior to his discharge six weeks later was up and walking around the ward.

In concluding, I wish to emphasize that this presentation has been no more than an abbreviated survey of a few of the many problems involved in the management and treatment of the various types of intracranial hemorrhage, with case histories which were intended to suggest, as well as to demonstrate, ideas and precepts in accord with the present trend of thought in neurological surgery.

POLIOMYELITIS
CLINICAL AND EPIDEMIOLOGICAL CONSIDERATIONS

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Poliomyelitis is an acute infectious disease caused by a filterable virus. The symptomatology of the disease varies, but in its characteristic form it produces in man flaccid paralysis involving few or many muscle groups. The manner of transmission of the virus to humans is not understood with certainty. Some believe the disease to be transmitted from person to person; others consider that the natural epidemiological cycle is dependent on environmental influences, inasmuch as the disease has the highest incidence in epidemics which occur invariably in summer and autumn months.

CHARACTERISTICS OF THE VIRUS

The virus of poliomyelitis is exceedingly small; it is among the smallest of the filterable infectious agents. The virus withstands weak solutions of phenol. It is destroyed by oxidizing agents such as hydrogen peroxide and potassium permanganate. Chlorination of drinking water in the concentration generally used will not inactivate all of the virus, although a great deal is destroyed.

The presence of poliomyelitis virus can be detected only by inoculation of favorable material into monkeys or chimpanzees. Rarely strains may be adapted to inbred strains of white mice. The virus causes flaccid paralysis in a number of species of monkeys and typical lesions appear in the spinal cords of these animals. In chimpanzees infection arising from poliomyelitis virus may be exceedingly mild, simulating in some respects attacks of abortive poliomyelitis in man. In mice encephalitis or myelitis occurs. Recently a rodent strain of poliomyelitis virus has been cultivated in the developing chick embryo.

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CLINICAL ASPECTS

Poliomyelitis is a disease which affects children and young adults more frequently than infants and adults over 25 years of age. The disease is readily diagnosed with the onset of flaccid paralysis involving one or more of the extremities. An increase in local prevalence of paralyzed cases during summer months brings the disease to the fore, and mild and abortive attacks are recognized. It is not improbable that abortive attacks of poliomyelitis occur in most communities each summer, but because of the quick and uneventful recovery these are seldom if ever recognized as poliomyelitis.

During epidemics frank paralytic cases appear. It is estimated that these cases represent about 10 per cent of all that are infected; the remaining 90 per cent have mild and uneventful illnesses. The paralyzed cases, by and large, fall into two groups—the spinal and the bulbar types. The relative ratio of spinal and bulbar forms of poliomyelitis varies somewhat with age; a larger proportion of individuals over 10 years of age have bulbar paralysis. There is undoubtedly an encephalitic phase to this disease, but in my experience it is not seen frequently.

The onset of poliomyelitis precedes the appearance of paralysis by four to ten days. Usually, there is an initial period of fever (101-104° F.) lasting two or four days with symptoms of sore throat, headache, malaise and abdominal pain. The patient feels better for a period of two to six days. Following this the fever rises, the neck is stiff and paralysis may or may not intervene. Usually at this stage paralysis occurs. A number of individuals have the initial symptoms and are well thereafter. These illnesses are hard to classify. In a small group of patients the onset may be quite sudden. The severity of the criti-

cal symptoms bears no relationship to the subsequent course of the disease.

The general distribution of paralyzed parts has been noted by many in different outbreaks of poliomyelitis. The arms and legs are most often affected. The palsies are of all grades of severity varying from transient weakness to complete and permanent paralysis. There is an election of certain muscle groups for paralysis. In the leg the quadriceps femoris, the peroneals, the flexors of the foot and extensors of the toes are commonly involved. In the arm the proximal muscle groups are affected more than distal groups. The deltoid is often permanently paralyzed. Muscles are usually affected in groups corresponding roughly to myotomes or muscles supplied by certain segments of the cord. If a muscle is paralyzed, other muscles which derive their innervation from the same segment are involved to some extent.

In fatal cases death usually results from paralysis of the muscles of respiration. The diaphragm is paralyzed infrequently. Respiratory failure results if the intercostal muscles are affected in addition to the diaphragm. Lesions in the lower cervical and upper thoracic segments of the spinal cord affect these muscles of respiration. In the bulbar form of the disease motor muscles and their peripheral ganglia are attacked. The VIIth nerve is attacked most commonly. The VIth, Xth, XIth and XIIth nerves are affected also, but less often than the VIIth.

DIAGNOSIS

Paralytic cases only can be diagnosed with assurance. This is a disadvantage because the majority of the people infected with the virus are never known. Simple methods to detect those individuals who have the virus in their bodies or who have developed immunity to the virus are not available.

In the differential diagnosis encephalitis of virus origin, namely equine encephalitis and St. Louis encephalitis, may be confusing particularly in abortive forms of these illnesses. Occasionally lymphocytic choriomeningitis, mumps encephalitis, and Landry's form of ascending paralysis may prove confusing. Complement-fixation tests using acute and convalescent serums assist in differentiating some of these diseases from poliomyelitis.

The laboratory findings may be of help. The circulating leukocytes seldom rise above 15,000 cells per cu. mm. of blood. A pleocytosis may occur; the cell count usually ranges between 20 and 200 cells per cu. mm. of spinal fluid. Some paralyzed cases may not show an increase in the spinal fluid cell count at the beginning of paralysis; abortive cases may have a marked increase. The highest cell count I have seen has been 1200 cells. There is no relationship between the cell count and the severity of the disease.

PATHOGENESIS

Man is the only known species to spontaneously carry poliomyelitis virus and to acquire illness as a result of infection with this virus. Flexner and his associates adduced evidence to indicate that the virus entered the central nervous system through mucous membrane of the naso-pharynx. Subsequently it was shown that the virus spreads along neuronal pathways in the brain stem and in the spinal cord. Evidence was brought forward to indicate that virus spread along the axis cylinders of neurons in monkeys.

It is more difficult to follow the pathways used by the virus in entering the central nervous system of man. The main reason for this is the widespread dissemination of virus in fatal cases of poliomyelitis. The point of entrance cannot be recognized because of the diffuse and intense cellular reaction appearing as a result of infection.

In the primary spinal type of poliomyelitis lesions are concentrated in the spinal cord. It has been suggested that poliomyelitis virus is implanted on naked neurons in the intestinal wall and that visceral afferent fibers from the intestine by way of dorsal root ganglions provide the easiest pathway for invasion of the central nervous system. Evidence in support of the intestinal entry in man is impressive but not conclusive.

There is evidence that the level of the central nervous system attacked by the virus is determined by neuronal connections in peripheral tissue where virus is implanted. The site of implantation may be the oropharynx, skin, gut, or nasopharynx. Subsequent spread within the nervous system depends upon facilities of neuronal pathways which in their own right are more or less resistant to its transfer. In fatal bulbar types of poliomyelitis the intensity of lesions in the medulla suggests that virus enters this region by way of the cranial nerves.

DETECTION OF VIRUS IN PATIENTS AND CONTACTS

Poliomyelitis virus can be detected in oropharyngeal exudate and in feces of individuals sick with the disease. Early epidemiological studies indicated that the disease is spread by direct contact. Virus has been detected in the nasopharynx of contacts, and once virus was detected five days before "symptoms" of poliomyelitis appeared. The detection of virus in the nasopharynx was not easily accomplished. With the use of a different method oropharyngeal exudates obtained from frank cases yielded a significantly higher number of positive tests. It seems fairly clear that the amount of virus in the oropharynx, at least, diminishes during the first fortnight of illness, so that

it is no longer detectable within 4 to 7 days after the onset of paralysis. It is equally clear that virus is present in the oropharynx during the first phase (pre-paralytic) of illness. Its presence there in an ambulatory patient during a critical period when virus is rapidly multiplying in the tissues of the host cannot be without epidemiological significance. However, evidence of contact spread is circumstantial.

Virus has been readily detected in colonic contents and feces of infected persons and in apparently healthy contacts. There is a lot of virus in stools and it is readily detected. The fact has been used to provide a tool for studies on (1) the relative incidence of abortive forms of the disease in any community, (2) the duration of the carrier state, and (3) the deposition of virus in sewage in epidemic and endemic periods.

Persons living in the environment of a frank or abortive case of poliomyelitis may carry virus in their stools. Many of these carriers do not become obviously ill, although they are parasitized by this pathogenic and infectious agent. However, if virus is sought out in other apparently healthy households of the same community, only a few carriers can be detected. The stool carrier rate appears to be related directly to frank cases of the disease.

The duration of the carrier state varies. The persistence of poliomyelitis virus in the pharynx is of brief duration (see above). The virus has been detected in feces of patients before the onset of paralysis. It may be excreted in feces for as long as 128 days. Just as in the pharynx, there is a continuous decrement in the amount of virus excreted from the intestinal contents in the course of the disease. During the first week or so 75 to 90 per cent of all individuals have detectable amounts of virus. By the 7th and 8th weeks virus can be detected in only 12 per cent. It would appear that there are no persistent carriers of virus.

PRESENCE OF VIRUS IN MAN'S ENVIRONMENT

The presence of poliomyelitis virus in feces indicated that it was present in sewage. Subsequent tests confirmed this hypothesis. In 1941 poliomyelitis virus was detected in or on flies trapped in the vicinity of human cases. In most instances flies had direct access to human feces. These findings provided the first evidence that poliomyelitis virus can be carried about *in nature* by a living organism other than man.

Food has been exposed to flies in unscreened and rather primitive homes in which there were paralyzed children. This food on being fed to chimpanzees contained enough virus to infect these animals. These results deserve additional study. They implicate the fly (green bottle-neck fly particularly) in the natural epidemiological cycle of poliomyelitis. This evidence also brings forward the idea that ingestion of virus may be more important than has heretofore been recognized.

It is difficult to state what these findings mean in respect to the epidemiology of poliomyelitis. It is an easy statement to say that all poliomyelitis is due to direct contact. Peculiarities in the over-all epidemiological pattern, namely its characteristic summer prevalence, the changing age incidence, its habit of attacking a few people in one community and then skipping to another far distant from the first has challenged the epidemiologist for an answer. Thus far, a satisfactory answer is still to be arrived at. The unraveling of this epidemiological snarl would be hastened if simpler, inexpensive and less time-consuming methods were available.

PROGNOSIS

It is difficult to give a definite prognosis in poliomyelitis. Age has some influence. The younger the child the more likely it is that function will be restored. Bulbar cases are less hopeful. The outlook is virtually hopeless with paralysis of the diaphragm and intercostals. The mortality rate varies in different epidemics and in various places. In 1916 the over-all mortality rate was about 20 per cent; in recent years it is about three to ten per cent. The mortality rate increases with age. Reduction in mortality rate in recent years is in part due to inclusion of abortive cases in the reported incidences of this disease.

In a like manner it is impossible at the onset to say what the extent or degree of paralysis will be.

PREVENTION

There is no satisfactory means of prevention. A reliable vaccine is not available at the present time. The use of convalescent serum or gamma globulin as a preventive measure in exposed individuals may be tried, but any real benefit is difficult to realize because low attack rates occur, and the chances of not developing paralytic poliomyelitis are at least nine to one. This statement is not made to discredit the use of a proved and safe antigen. It is made to point out that apparently good results following the use of serum may be merely nature's kindness to the physician.

TREATMENT

The diagnosis and treatment of paralytic poliomyelitis is a divided responsibility. The division of labor, however unequal, falls upon the internist or pediatrician, orthopedic surgeon, and the physical therapist. The internist examines the patient, checks the diagnosis, carries out routine studies, and guides the metabolic needs of the individual during the acute phase of the illness. The orthopedic surgeon

sees the patient on admission, and directs the care of the patient in association with the director of physical medicine in the acute and early convalescent periods of the disease. Their work is clearly defined when it is possible for them to see the degree of residual and often permanent paralysis of various muscle groups in order that they can anticipate resulting structural deformities. Some of this requires physical therapy; later, surgical procedures may be required. In the acute and chronic phase of poliomyelitis a very large amount of work falls to the physical therapist. The need of modified Kenny type of treatment in poliomyelitis is well realized. It is time consuming, and requires intelligent care. I shall not extend myself to discuss the treatment. Doctor Martin has, in the following paper, discussed the principles and practice of present treatment in the early and late stages of poliomyelitis.

Supportive treatment is not often urgent, except in bulbar types of poliomyelitis. Adequate fluid balance and efforts at securing the comfort of the patient are the necessary prerequisites of care in the acute phase of illness. The respirator should be used with onset of weakness or paralysis of the respiratory muscles, but only when respiration becomes labored to the point of exhaustion or if there is oxygen deficit. Oxygen is useful in these cases.

The use of convalescent serum in the treatment of poliomyelitis is not of proved value. Experimental observations support this. It is quite clear that at the time when serum is used the virus has established its intracellular habitat, is widely disseminated, and the damage is done. Serum will not correct or prevent this.

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TREATMENT OF POLIOMYELITIS

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Acute poliomyelitis is an infectious disease with preliminary systemic manifestations which are followed in a small percentage of cases by inflammatory changes in the central nervous system. The involvement of the central nervous system by the virus of poliomyelitis results in a condition that is characterized clinically by hyperirritability and persistent shortening of certain muscle groups and weakness and paralysis in the same or other muscle groups. This spasm or shortening, as well as the weakness, may be responsible for many of the deformities and crippling after-effects of the disease.

The principle of treatment in the early stages of the disease is to relieve the pain, release the spasm as quickly as possible, and by detailed muscle re-education make maximum use of all remaining neuromuscular units not destroyed by the initial invasion of the virus. In the later stages every available means is taken to rehabilitate the patient to his maximum functional capacity. This may include use of special apparatus and braces, various surgical procedures and often physical therapy over a prolonged period.

The first step in the treatment of the acutely ill is to save the patient's life. This depends on careful medical and nursing care primarily for those with bulbar involvement and involvement of the respiratory muscles. The transportation of these patients to the hospital is essential and must be done with the greatest care. The child who can not cough or swallow is likely to literally drown in his own secretions. Therefore, for transportation the patient should be placed on the stretcher on his abdomen and with his head lower than the rest of the body. The ambulance should be warm and the drive should be as short, slow and smooth as possible. Pain and spasm is definitely aggravated by the jolting and swaying of a rough, fast nerve-racking drive.

Generally an acutely ill patient should be taken to a hospital near his home. If a respirator is needed and is not available locally, it is best to have a respirator moved to the hospital. The patient should be placed in a room maintained at about 80°F and the temperature maintained at a fairly constant level throughout the 24 hours. It has been shown by allowing the room to cool at night muscle pain and spasm is aggravated. Preliminary examinations should be as brief as possible so as not to tire the patient or aggravate pain and spasm. In most cases a spinal puncture is indicated to confirm the diagnosis and to give an indication of whether or not the disease has as yet reached its peak as far as central nervous

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system involvement is concerned. The patient may be isolated for a period of three weeks.

In order to obtain the desired careful medical and nursing care it is important that the physician carefully prescribe the routine desired. The patient should be handled as little as possible; whenever he is handled or moved the attendant's hands should be warm, bed pans or urinals should be warm, and in moving the patient support should be given to the joints and no pressure applied over the tender muscles. The patient's position should be changed several times daily and part of the time he should be placed in a prone position, unless there is spasm of the diaphragm. It is not necessary to give baths during the period of painful spasm but when they are given the patient should be dried without vigorous rubbing. No alcohol rubs or massages should be given during the acute stages. The majority of these patients have considerable distention and it is advisable to order a soapsuds enema during the first 24 hours which may need to be repeated every second day.

The position of the patient in bed should be arranged to keep him as comfortable as possible, as well as to maintain normal body alignment and to prevent the assumption of positions that would favor the development of later deformities. The normal body alignment is best maintained by equipping the bed with a fracture board and placing a foot board four inches below the foot of the mattress. As soon as possible the patient should be instructed to keep his feet flat against the foot board. The patient who has considerable spasm and pain in the hip flexors and hamstring muscles may be made more comfortable by placing a pillow lengthwise under the calves of the legs. This will maintain the thighs and hips in a moderately flexed position. The knees should always point toward the ceiling and supports may be necessary to prevent the legs from assuming a position of external rotation. In the prone lying position the patient's feet should project below the foot of the mattress. A fold of towels may be placed under the ankles to slightly flex the knees. Also pads made of folded bath towels should be placed under the shoulders to maintain the normal position of the scapula. As soon as the patient tolerates moving he should be turned to the prone position four to six times daily. During the febrile stage the patient should be given plenty of fluids. The diet should be light and well balanced and if the patient is unable to swallow, nourishment may be maintained by use of the stomach tube or intravenous feedings. Occasionally catheterization is necessary for retention of urine. If the patient has any difficulty in breathing, swallowing, talking or coughing an aspirator should be kept at the patient's bedside and a respirator should be available.

Respiratory difficulty due to spasm and muscular weakness manifests itself by rapid, shallow breathing, cyanosis, rigid flat chest, inability to take a deep breath, a position of inward rotation of the adducted arms, use of the neck muscles in an attempt to elevate the rib cage and depression of the intercostal spaces. Usually the application of hot packs to the chest wall every few minutes will result in improvement of respiration in those cases where there is marked amount of spasm and tightness. If the patient has spasm in the diaphragm he will have difficulty in expiration. The chest will be expanded, the eye balls will be prominent and the abdomen will be raised during exhalation. Hot packs applied around the body over the lower chest and abdomen every few minutes, in the majority of cases, will relieve much of the spasm. These patients should be kept on their backs and have the head of the bed elevated. If the respiratory difficulty is due to bulbar paralysis, there will be shallow irregular breathing with difficulty talking and swallowing. These patients should be in a prone position with the bed in the head down position.

Not all of the patients who have respiratory difficulty can be helped by a respirator, in fact, in some instances the use of the respirator may be definitely harmful. The respirator is most consistently helpful in the cases that have actual paralysis of the primary respiratory muscles, including the intercostals and the diaphragm, due to damage of the anterior horn cells of the spinal cord. The respirator may occasionally be of aid in those patients whose difficulty in breathing is due to a disturbance of the nerve centers in the medulla. The respirator is rarely of any value and sometimes definitely harmful in those who have a severe bulbar lesion with collections of mucus in and around the glottis and paralysis of the pharynx.

The respirator should be considered more than a device for emergency life saving. It is a device which will provide physiologic rest for the muscles of respiration. The tender partially paralyzed muscles of respiration should have rest and avoidance of fatigue just as much as involved muscles in the extremities. In most cases where respiratory involvement is apparent, the patient should be placed in the respirator before cyanosis develops. In general, for the patients with respiratory muscle involvement who are given periods of rest in the respirator, its use should be continued until the patient's temperature is normal and all muscle soreness and tenderness has disappeared. In some cases it is necessary to continue intermittently to use the respirator for several weeks or months. The purpose of the respirator, of course, is to bring about the passage of air in and

out of the patient's lungs for indefinite periods without harm to the patient or the lung tissue. There must at all times be a freely open airway to permit satisfactory use of the respirator. The rate of respiration should be between 15 and 20 for adults and 20 to 30 per minute for children. The cooperation of the patient is very helpful in successfully using the respirator. He should learn to completely relax or synchronize his breathing with that of the cycle of the respirator. The usual negative pressure used in the respirator is 14 to 18 cm. of water. Usually no positive pressure is required and expiration depends upon the elastic recoil of the thoracic cage of the thorax in response to the negative pressure of the respirator.

Constant nursing care should be continued while the patient is in the respirator. Hot packs may be applied for muscles in spasm and prevention of deformities should be considered, especially in those patients that require a long period of care in the respirator. It is well to remember that many patients whose respiratory paralysis has been adequately treated in the respirator have died from conditions resulting from poor nursing and medical care. Position must be changed frequently as the danger of pneumonia is considerable. Proper alignment of the body must be maintained to prevent the tendency to deformity. Postural drainage may be necessary and care of the skin is of great importance. Adequate fluid to keep the mucus from becoming thick and tenacious is important.

The relief of pain and muscle spasm is of paramount importance in the treatment of early poliomyelitis. The simple procedures of properly supporting the patient in a warm bed and in properly relaxed position will do much to relieve pain and provide relaxation of spasm. Mild sedatives may be used while the fever is still elevated. Codeine in small doses is probably most effective. As the patient's temperature begins to approach normal or even earlier in some cases, the use of hot packs will relieve much of the pain and muscle spasm. In children who are old enough to cooperate the simple expedient of using the prone or lay-on packs is usually adequate. In the child under 4 or 5 years old it is usually necessary to use the pin-on packs as described by Kenny and her co-workers. The packs are cut from a soft old wool to fit on the muscular areas. The packs are applied in such a way as not to inhibit motion at the joints. The hot moist packs are rapidly dried as much as possible and then applied at a temperature as hot as the patient can tolerate. The packs are covered by water-proof material and then surrounded by a dry wool pack to maintain the heat as long as possible. These packs usually cool off in about 15 minutes. Knapp has pointed out that the intensive heat at the beginning followed by the gradual cooling off period results in a more marked relief of pain than will result from using only comfortably warm packs that are maintained at a constant temperature. The general procedure is to apply the packs from two to six hours daily, depending first on the severity of pain and spasm, second, the general condition of the patient and third the amount of relief and relaxation that is obtained with the packs. It is well to remember that in most instances volunteer nurses aids or ward helpers can be trained to carry out packing procedures in a satisfactory manner. Many children without extensive involvement can be cared for at home by carefully instructed intelligent parents.

The use of drugs, notably neostigmine and curare, has been tried with some success for the relief of pain and spasm. The marked depressant effect of curare on all muscles should make inexperienced persons wary of its use in acutely ill patients who may be showing muscular weakness.

Very early in the course of disease passive exercise to the point short of discomfort is started. This is usually carried out twice daily. If the patient can move actively without increasing his pain or spasm and without incoordination, he is encouraged to move himself from time to time in his bed. As voluntary function returns to the weakened or paralyzed muscles, the patient is carefully instructed by the physical therapist in the proper use of each individual muscle unit or group. The purpose of the early detailed and intensive muscle reeducation procedure is to make it possible for the patient to obtain the maximum co-ordinated use of all functioning neuromuscular units. Mild stretching may be necessary on tight shortened muscles.

At the end of the three weeks isolation period most of the patients will have only a moderate amount of residual pain and spasm in the muscles. They are then started on hydrotherapy and are treated in a warm bath with a water temperature maintained at 100 to 104° F. for periods of from 10 to 20 minutes daily. The use of the warm bath usually further relieves muscular soreness and tightness. Also the patient is helped and encouraged to actively use his weakened muscles. The effect on the morale and mental outlook of the patient when he sees that he is able to use his weakened muscles to move his extremities is often quite remarkable.

The next stage in the treatment of these patients is to provide exercise that will increase the muscle strength. This usually depends on the use of more extended periods of active exercise and in some cases the use of resistive exercise. It is only through the use of resistive exercise that a muscle will increase in strength. In determining the amount of

activity that a patient recovering from poliomyelitis can tolerate, it is important to remember that overfatigue or overstrain of a weakened muscle may result in a loss of strength in the neuromuscular unit, and a definite setback to the patient's progress. If increasing the patient's activity tends to encourage development of deformities, the activity should be curtailed for a longer period. In this stage of increasing activity many normal activities can be permitted if a weakened member is supported. At this time it is often well to have the patient wear straight-leg lock-knee brace if he has a total paralysis of one leg which is not expected to recover. Also in some cases with a latent scoliosis, development of the deformity may be prevented by the use of a back brace. The use of Canadian crutches will allow many patients more activity and relieve the weakened muscles of the lower extremities of some of the burden of balancing and weight-bearing.

The evaluation of the patient's physical capacities must be made from time to time by the orthopedist and the physical therapist. It is important to decide whether or not the patient can or should walk without braces. Often it is advisable to protect the joints of the weakened legs with braces which also make the patient more stable in his walking and standing.

In the chronic stages of the disease which may last for many years, the possibility of benefit to the patient by orthopedic surgical procedures must be considered. A transplant of a tendon of a strong muscle to assist the action of a moderately weakened muscle may give a patient much more stability. Occasionally progressive deformities of the spine may require fusion of the spine. If deformities are developing or have developed in the foot, surgical procedures for anthrodesing the foot and ankle must be considered. Most surgical procedures can be delayed until two years or more following the acute stages. During this two year period, the child should be frequently checked to see that he is well coordinated in his muscle function and that deformities are not developing. Small uncooperative children who do not understand the problem may during this period grow into cooperative patients who can be instructed in the maximum efficient use of their weakened muscles. The regular follow-up of these children by the orthopedist and physical therapist over a prolonged period should be made a definite part of the treatment program.

ANNOUNCEMENTS

September 25—Meeting, Mississippi Valley Medical Editors' Association, St. Louis, Missouri.
September 25-27—Meeting, Mississippi Valley Medical Society, St. Louis, Missouri.
October 7-10—Fall Conference, Kansas City Southwest Clinical Society, Kansas City, Missouri.
October 7-11—Course in Clinical Allergy, sponsored by American Academy of Allergy, Marquette University School of Medicine, Milwaukee, Wisconsin.
October 9-12—Examinations, American Board of Ophthalmology, Chicago, Illinois.
October 21-23—Assembly, United States Chapter International College of Surgeons, Detroit, Michigan.
October 28-31—Fall Clinic, Oklahoma City Clinical Society, Oklahoma City, Oklahoma.
October 28-November 1—Annual Assembly, Omaha Mid-west Clinical Society, Omaha, Nebraska.
November 17-23—Inter-American Congress of Radiology, Havana, Cuba. Information may be secured through American College of Radiology, 20 North Wacker Drive, Chicago, Illinois.
December 4-5—Meeting, Kansas State Board of Medical Registration and Examination, Kansas City, Kansas.
April 28-May 2—Annual Session, American College of Physicians, Chicago, Illinois.
MAY 12-15—ANNUAL MEETING, KANSAS MEDICAL SOCIETY, TOPEKA, KANSAS.

National Society for Medical Research

The Association of American Medical Colleges, with the cooperation of 101 national scientific organizations, has announced the formation of a clearing house for information on medical studies and discoveries, to be known as the National Society for Medical Research. Headquarters will be in Chicago with Dr. Anton J. Carlson, professor emeritus of physiology at the University of Chicago, as president and Mr. Ralph A. Rohweder as executive secretary.

The advancement of research in medicine, biology, pharmacy, dentistry and veterinary medicine is the purpose of the society, and one of its important functions will be to analyze and expose the propaganda of small but highly vocal groups which object to the use of animals in the experiments without which medical science would still be in its infancy.

New Director for National Foundation

Dr. Hart E. Van Riper, Scarsdale, New York, has been appointed medical director of the National Foundation for Infantile Paralysis, according to a recent announcement by Basil O'Connor, the organization's president. Dr. Van Riper has served as acting medical director since January.

What are the essentials of a program for the eradication of tuberculosis? First, a medical profession interested in the problem and familiar with modern methods of diagnosis and treatment. Next, complete diagnostic x-ray and laboratory facilities freely available to all physicians in a community and to the health department, regardless of the patient's ability to pay. Third, and equally important, a well-organized active health department with complete family records of all cases and a public health nursing service capable of teaching preventive measures in the home and maintaining effective contact between patient, doctor, and health department. *The Modern Attack on Tuberculosis, Henry D. Chadwick, M.D., and Alton S. Pope., M.D., Commonwealth Fund, 1946.*

During the period of the war, there occurred in the United States more than two deaths from tuberculosis for every three lives lost in combat by the armed forces of the United States. *J. Yerushalmy and I. M. Moriyama, Public Health Reports, April 5, 1946.*

PRESIDENT'S PAGE

To the Members of the Kansas Medical Society:

The recent cancer drive in Kansas was quite successful and a considerable amount of money in excess of the quota was secured. Last week the first step in the reorganization of cancer work in Kansas was taken when a charter was secured for the Kansas Division of the American Cancer Society.

This organization will be completed by the election of directors and officers the latter part of this month, giving us a truly democratic organization with all authority springing from the county units. Of course the backbone of the organization will be the Women's Field Army. The proposed constitution provides for adequate medical representation on the Board of Directors.

The thing we wish to urge at this time on county societies is the initiation of projects for cancer diagnosis or treatment since, for the first time, there is money available for financing these enterprises. For the present, applications for funds should be made to Mrs. J. E. Johntz, commander of the Women's Field Army in Kansas, Abilene, Kansas. We must keep faith with the public by furnishing sound enterprises for the expenditure of these funds, enterprises that provide either diagnosis or treatment. The Cancer Committee of our state society will be glad to advise and help in the county problems.

For many years Dr. Cliff Nesselrode has headed the Advisory Committee of the Women's Field Army or our state Committee for the Control of Cancer or both positions at the same time. He and Mrs. Johntz are largely responsible for the success of the fight on cancer up to this time and will be actively identified with the new organization in the future.

J. M. Mills

President

EDITORIALS

Railroad Retirement Acts

Before adjournment, the Congress of the United States passed HR 1362, which provides amendments to the Railroad Retirement Acts and the Railroad Unemployment Insurance Act. Among other changes and extensions of the original acts, HR 1362 sets up a system of sickness and maternity benefits for railroad employees, based on a graduated payroll tax which, after December 31, 1951, will be computed at 6¼ per cent from the employees and 12¼ per cent from the employer. President Truman is expected to sign this bill.

Historically, the medical profession has approved the payment of cash benefits out of social security funds for sickness and disability. However, this measure is the first instance of such payments by the federal government under any of its insurance programs. HR 1362 authorizes the Railroad Retirement Board to exercise extensive control over physicians and hospitals in the administration of sickness and maternity provisions of the Act.

It is time to pause a moment to consider the effects of the passage of this bill upon the medical profession. First, let us consider the economic aspects of the bill. After December 31, 1951, the total costs of such a bill will amount to 18½ per cent of the railroad employees' earnings. As cleverly stated in this bill, 6¼ per cent is to be paid by the employee and 12¼ per cent is to be paid by the employer. Basically, this can only mean, after all, that the employee is paying 18½ per cent of his total earnings for sickness and health benefits. After all, it is the man who does the work who must produce the money to pay the bills. It is impossible for corporations, even large ones such as the railroads, to assume, year after year, two per cent, four per cent, twelve and one-fourth per cent, added deductions and still remain solvent. The end result, therefore, is a true reduction in the amount of salary paid to the employee in order that the employer can pay a tax of 12¼ per cent into a governmental agency to insure sickness and maternity benefits for railroad employees. This means, then, a lower standard of living for all railroad employees.

According to an analysis of this bill, it authorizes the Railroad Retirement Board to exercise extensive control over physicians and hospitals in the administration of sickness and maternity provisions of the Act. Would it be too much to assume that they anticipate forcing down the necks of the private hospitals and physicians of this country a program under which the hospitals would receive an insufficient amount of income to meet the costs of taking care of these patients and that the fee schedule allowed the participating physicians would be also on a substandard rate. This has been our experience with certain groups of government subsidized patients in the past. Can we expect any more in the future?

The provisions of this act are no more than a small wedge driven into the field of the practice of medicine. Being mindful of the fact that the railroad employees comprise only a small percentage of our population, who is able to forecast what well organized group with a powerful lobby will be next in line for a similar act.

The government is most gratuitous in those instances where gratuity counts the most. For example, the government establishes in our midst government hospitals and then immediately sets up a wage scale for nurses and hospital attendants and workers that no local hospital can meet. Then they expect us to take care of, in our local institutions, the same class of patients at a per capita cost far under the actual cost of taking care of that patient. Can we expect more than this out of the Railroad Retirement Act?

It is customary in all business to have a yearly auditing and accounting. It would be worth while for the medical profession and the hospitals of our country to have an annual accounting. We should analyze this audit sheet and determine what may be credited to gain and what may be credited to loss. We should carefully analyze such groups of patients as would qualify under the provisions of the Railroad Retirement Act and other federally subsidized groups of patients. Then, we should go about in a systematic manner to eliminate those groups that financially and otherwise fall in the debt column. The medical profession has been played for suckers long enough. Remember there is strength in numbers and that our organized members hold the keys to the health of the nation.

Hospital Construction Act

On August 13 the President signed the Hospital Survey and Construction Act, S. 191, and the Hill-Burton bill became law. The federal government will participate in the construction of private hospitals, establishing a new policy which, if operated in the future as now interpreted, will bring to private hospitals the assistance of federal funds with only a minimum of federal control.

Federal control will be asserted before the appropriation is approved. Once the hospital is completed and in operation, except for one detail, that hospital remains as independent as though only local funds were employed for its construction. The one exception applies to sale or transfer and to situations where a hospital closes. If, within 20 years, the

property is sold or transferred to an agency or individual not approved by the designated state agency, or if the hospital ceases to be a non-profit institution, or if the hospital closes, the United States retains the right to recover one-third of the then existing value of that hospital.

Only slightly amended in its last stages, the Hospital Construction Act authorizes the appropriation of 375 million dollars during the next five years to states on the basis of need. An additional three million dollars is granted for state-conducted surveys. Standards will be specified by the Surgeon General of the United States Public Health Service with the assistance of a hospital council of eight members to be appointed by the Federal Security Administrator.

Any state may initiate action by submitting a request to the Surgeon General for funds to carry out an inventory of existing hospitals, and to prepare a plan for the construction necessary to provide adequate care for all the people. In making the request, the states must designate a single state agency to carry out the survey and planning and must appoint a properly qualified advisory council to consult with the state agency. The proportionate share for each state of the total federal appropriation for survey and planning will be determined by the populations of the several states. However, federal funds must be matched by two to one in defraying the survey expenses.

Allotments for the actual construction of facilities will not be made until the state plan based on the survey findings has been approved. Construction allotments to individual states will vary in amount. Population will be one factor, and in addition the average per capita income will be used in the allotment formula in such a way that states with a lower per capita income, where there is relatively greater need for medical facilities, will receive proportionately larger allotments per capita.

Applications for funds for individual construction projects must be channeled through the designated state agency. Here again, federal funds may not exceed one-third the cost of a project. Before any single project is approved by the Surgeon General, sufficient evidence must accompany the building request to show that two-thirds of the total cost of construction is available from other-than-federal sources, and that financial support is adequate for the maintenance and operation of the institution after completion.

The American Hospital Association announced on August 13 that in 40 states surveys are already under way and that only one state, Missouri, had taken no action. Surveys will be completed by October 1 in at least 11 states.

The survey in this state is completed and Kansas is one of the first five states to have accomplished this task. Years ago the Hospital Survey Committee of the Kansas Medical Society began studying the problem of adequate hospital distribution. Months ago this committee met with the Kansas State Board of Health, the Kansas Hospital Association, the Kansas State Nursing Association, architects, contractors and business leaders and authorized Dr. Beelman to start a Kansas survey. Almost immediately afterward an Advisory Hospital Commission to the State Board of Health was appointed by the Governor. Dr. A. R. Hatcher of Wellington, chairman of the Society committee on Hospital Survey, was named chairman of this commission. In this way the Society has retained a most active participation in this project.

Widespread interest in the program of adequate hospital distribution was evidenced during the 1945 session of the Kansas legislature. Enabling acts were passed permitting virtually all cities of the first or second class, all counties in the state, or cities and counties to vote bonds for hospital construction. At present 15 or more communities have already obtained funds and are ready to begin building as soon as materials become available. Interest increased immediately following the passage of S. 191 so that in the near future many other communities will also complete plans toward the establishment of hospital facilities. Dr. Beelman, of the State Board of Health, informed the Journal that many inquiries are being received.

It is understood, of course, that hospitals may be built without the use of federal funds. Should subsidies be desired, applications must first be made to the State Board of Health. They will be examined by the Advisory Hospital Commission of Kansas and, if approved, will be submitted to Washington. In Washington the entire state project for hospital construction will be studied. Where local need is established, and if local funds for completion of the project are shown to be adequate, the federal grant, not to exceed one-third the total cost, will be approved.

Added Hospital Facilities

Under the provisions of Public Law 725, known as the Hospital Survey and Construction Act, an estimated $933,750 per year for five years will be allotted to Kansas for hospital construction. This program is to be administered by the United States Public Health Service, under the direction of Surgeon General Thomas Parran.

On Tuesday, August 20, 1946, Dr. Parran announced the formation of a Division of Hospital Facilities to assist him in carrying out the provisions

of the act. This division will assist the states, their political sub-divisions and non-profit organizations in matters relating to s udy, construction and operation of hospitals. The division will also assist the surgeon general in preparing regulations, determining allotments and grants and in considering plans and projects. One of the standards which the surgeon general of the United States Public Health Service will probably require of participating states is a state-wide hospital licensing law. If this is correct, no federal money for this purpose can be received in Kansas until the legislature acts to meet this requirement.

It can be estimated that the communities of Kansas will receive federal grants over a period of five years amounting to approximately $4,668,750 for hospital construction. At this writing, it seems that the state, county, city, community or non-profit organization will have to put up $60 for every $40 of federal aid on a matching basis to obtain these funds.

Apparently, in this program, there is a definite aim in view of placing federal grants where they will do the most good and where the community is sufficiently large to support the proposed institutions.

We can see in Public Law 725 a great opportunity to place hospital facilities in easy reach of every person in Kansas who is in need of those facilities. We can also see the possibility of improper distribution of these funds through political conniving and favoritism, thus placing hospital beds in communities that can only support those beds in economically flush times such as we now have.

Since most communities look to their physicians for guidance in matters pertaining to the health, it is up to our individual members to indulge in a lot of serious thought over the next few months, concerning anticipated hospital construction. The questions which we must be able to answer in order to serve our communities best are:

(1) What are the existing hospital facilities for the patients of our community?

(2) How many additional hospital beds are required to take care of the average needs of our communities?

(3) How many hospital beds can our community support financially?

(4) Where should this construction be made?

(5) Is it more economical to our patients to add 30 beds to an existing hospital of 30 beds in a town 15 miles away, where a larger area can be served, or to place it locally, thus requiring the duplication of many existing facilities such as x-ray and laboratory equipment, kitchens and laundry facilities, not to mention the personnel required to man those facilities efficiently.

(6) As physicians, can we not offer better medical and consultation service where there are several of us on the staff than in a small community hospital where our staff is very small?

Yes, we can see wonderful opportunities in this grant for Kansas medicine. We can see small to moderate sized hospitals placed in central locations, with good highway connections serving efficiently the community's hospital needs. We can see the medical service of Kansas communities improve because of increasing friendliness between the physicians of the community, stimulated by closer and more frequent contact, medical consultations, staff meetings and discussions. We can see those hospitals economically perpetuate themselves, and grow in tradition and size with the needs of the community. We can see the health standards of those communities rise.

On the other hand, we can see hospitals with too many empty beds, because of the optimism of too much money in the pocket, and the chance to get a federal grant. We can see hospitals that are badly in debt, getting supplies and food on a C.O.D. basis. We can see hospitals that are a liability instead of an asset to the communities they serve. We can see the health standards of those communities go down.

It is up to us to study the needs of our communities and make the proper recommendations. We must be able to give intelligent advice to county or city commissioners, civic club presidents, and all others interested in the program, stimulating them to action when there is definite need, and putting on the brakes when their enthusiasm is unjustified. It is our problem. The answer is not in the back of the book. We must work it out together.

Surplus Commodities

Much controversy has arisen over the disposal of surplus commodities. It is not the purpose of this editorial to enter into that discussion, but merely to report information recently received from the War Assets Administration on this subject.

Periodically lists of available medical, dental and veterinary equipment are published. List Number Three was issued on June 1, 1946, and is available to anyone who requests this material. Correspondence concerning surplus commodities should be directed to the nearest regional office. For eastern Kansas this would be Mr. John E. Kirchner, Regional Director, War Assets Administration, Troost and Bannister Road, Kansas City, Missouri. Those physicians nearer Denver would write Mr. John A. Skeen, Regional Director, War Assets Administration, Commonwealth Building, 728 Fifteenth Street, Denver, Colorado.

(Continued on Page 408)

Veterans Administration Agreement

Speed in completing disability examinations is one of the primary benefits the Veterans Administration and the veteran himself receive from a program such as that in operation in Kansas. For the successful continuation of this program it is essential that examining physicians complete and return the examination form as rapidly as possible. In an effort to further expedite this program, the Medical Service Center hereby announces a slight change in procedure policy.

Instead of having the examiner notify the Medical Service Center of the appointment time, the physician will now notify the veteran direct. The Medical Service Center will include all forms completely made out except for the date and hour of the appointment. The examiner will add that information and mail the notice direct to the veteran. This will save several days and considerable confusion. It is also recommended by the Committee on Veterans Administration Affairs that if an examiner cannot make an appointment for the veteran within a few days he should notify the Medical Service Center and return the material. This examination will then be sent to another physician in the locality.

During the past month Dr. Clyde B. Trees, orthopedist of Topeka, has been appointed to the Committee on Veterans Administration Affairs, thereby adding a specialist in another field to the group meeting each Friday noon to discuss examinations that, in the opinion of the director of the Medical Service Center, would not be acceptable to the rating board.

Each month on this page will be carried information pertaining to examinations. It is recommended by the committee that this material be retained for future reference since it summarizes nomenclature and procedures required under the agreement. The article on malaria printed below is a release just published by the Veterans Administration and represents the newest regulations regarding this disease.

TREATMENT OF MALARIA

The following important points should be borne in mind in the treatment of the overseas veteran who presents himself to a VA field station with a presumptive diagnosis of malaria.

1. In practically all overseas veterans who still have malaria, the infection is due to *p. vivax*, since malaria due to *p. falciparum* was virtually eliminated among those who took suppressive treatment with quinacrine (atabrine), and very little malaria due to *p. malariae* was contracted.

2. The presumptive diagnosis of malaria should be confirmed by the examination of both thick and thin films and this examination should be repeated if initially negative. Usually, there is little likelihood of finding parasitemia when clinical symptoms are not present.

CAUTION: Self-medication by veterans just prior to application for medical care may mask the diagnosis of malaria.

3. If the veteran has clinical symptoms, he should be admitted to the hospital and be treated in bed during the acute attack, preferably with quinacrine (atabrine), as indicated in War Department Technical Bulletin No. 72, 10 July 1944.

This treatment is as follows: quinacrine 0.2 gm. every 6 hours for 5 doses to be followed by 0.1 gm. 3 times a day after meals for 6 days (total of 2.8 gm. in 7 days).

4. If severe nausea and vomiting are present, the treatment can be initiated by the intramuscular injection of 0.4 gm. of quinacrine, followed by one or two additional injections of 0.2 gm. at intervals of 8 hours, if necessary. The remainder of the course should be administered by mouth as outlined in paragraph 3 to give a total of 1.3 gm. of the drug in the first 48 hours and a total of 2.8 gm. in 7 days.

5. In the event that malaria parasitemia is discovered without clinical symptoms, it is recommended that a full course of treatment be given by mouth as outlined in paragraph 3. Hospitalization should be urged; but, if this is impossible, treatment may be given on an out-patient basis under adequate supervision by the physician.

6. Suppressive therapy is not advised for patients who require treatment for malaria in this country unless relapses occur at such short-time intervals as to cause incapacity or debilitation of the patient or to interfere seriously with his work. Under these circumstances, the following treatment schedule is recommended. Quinacrine 0.1 gm. daily with a full glass of water after a meal. This dosage may be continued for a period of 2 or 3 months. It should be emphasized that suppressive therapy is not expected to modify the natural course of the disease but is useful only to increase the interval between relapses (War Department Technical Bulletin Medical No. 136, January 1945).

7. Quinacrine intolerance is rare, but patients who cannot take the drug may be seen occasionally. Such cases may be treated with quinine sulfate or hydrochloride or by chloroquine (SN 7618). The quinine should be administered 1.0 gms. 3 times daily after meals for 2 days and then 0.6 gms. 3 times daily for 5 days (War Department Bulletin Medical No. 72). Chloroquine can be obtained from the United States Public Health Service through Central Office and will soon be available through commercial channels. It is given in doses of 0.3 gms. twice on the initial day, at 4-hour intervals, and once on each of two successive days.

8. In dealing with patients who have had repeated relapses, at least four or more, consideration may be given to the use of a special course of treatment, consisting of pamaquine (plasmochin-napthoate) and quinine. *As pamaquine is toxic, this treatment should not be employed routinely and it should be used only in selected cases.* The patient should be treated in bed in a hospital where expert care can be given in case a toxic hemolytic reaction starts to develop. The patient's blood and urine should be closely observed to permit the early detection and vigorous management of a developing anemia. Because of the higher incidence of serious hemolytic reactions in colored or mixed races, this treatment should be undertaken only in members of the white race. The following course of treatment may be expected to effect a permanent cure in about 90 per cent of individuals who have had a number of relapses: pamaquine, 0.02 gm. given concurrently with 0.65 gms. of quinine sulfate every 8 hours for 14 days, a total of 0.84 gms. of pamaquine and 27.3 gms. of quinine. This treatment may be expected to cause a moderate but not dangerous degree of methemoglobinemia and also mild or moderately severe intestinal cramps.

9. Many veterans with relapsing vivax malaria will require reassurance concerning this disease.

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For more convenient and effective rectal administration of Aminophyllin,* Searle Research has produced

AMINOPHYLLIN SUPPOSICONES
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Searle Aminophyllin Supposicones are non-irritating to the rectal mucosa—require no anesthetic—are of proper size and shape for easy insertion and retention.
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SEARLE

RESEARCH IN THE SERVICE OF MEDICINE

KANSAS PHYSICIANS' SERVICE

After a delay of several months during which the Blue Cross reorganized its bookkeeping, the Kansas Physicians' Service sales staff is again at work. The experience during the first eight months of operation is better than had generally been expected. Approximately 8,000 persons are now covered by this voluntary prepaid medical care plan, and 875 physicians in Kansas have agreed to participate in the program. Each month many claims are authorized and paid.

Beginning September 1 a landmark in the experience of Kansas Physicians' Service will have been reached. The first participants enrolled as of January 1 will on that date become eligible for all benefits that are provided. The eight months waiting period has been completed for those persons, which adds to their benefits obstetrical services, tonsillectomies, and treatment for conditions existing prior to enrollment. Each month in the future more persons will become eligible for these total benefits.

In August the sales staff began its first community-wide enrollment drive. El Dorado was selected to be the city where this experience would begin. At the time this is written official reports are not available, but it appears that of all employee groups now enrolled with Blue Cross 40 or 50 per cent will also take Kansas Physicians' Service.

A large share of the credit for this splendid record is due the medical profession in El Dorado. Not only have these doctors united to approve this society sponsored project but of their own accord they placed a large advertisement in the newspaper declaring to the public their active participation in this plan.

During the coming months other Kansas communities will be selected for special drives. In each instance the medical profession will be notified beforehand. From the Executive Committee of Kansas Physicians' Service comes the sincere request that the medical society prepare for these events by speaking not only with individual patients who come to the office but by participating individually and as a group during the enrollment period.

Kansas Physicians' Service is the Kansas Medical Society. It is the one concrete reply that has yet been devised for those who would socialize the practice of medicine. Not only is this an answer but it gives to the individual a better program at a much lower cost than would be provided under federal regulations. It is of interest to the medical profession because, except for the manner in which the physician is paid, Kansas Physicians' Service in no way disturbs the present system of medical care.

de Kruif and the Reader's Digest

"Demerol need not be disguised. It is God's own medicine." So rejoices Paul de Kruif, self-appointed impressario of medical progress to the lay public, in the June, 1946, issue of the Reader's Digest. The story is headlined, "The pain-fighting power of Demerol is as miraculous as that of morphine—without the opiates' danger of addiction." He describes the blessed relief from suffering given by Demerol to women in labor and to unfortunates in the agony of asthma and of gall and kidney stones—all with perfect safety. . . .

That Demerol posseses clinical merit is not questioned. Its value and safety relative to morphine, dilaudid and other admittedly habit forming drugs may not be fully established for several more years. Meanwhile, to ballyhoo the drug to the public as one which may be given to relieve pain without danger of addiction is to completely ignore the reports of several investigators. Physicians are being besieged by sufferers from migraine, arthritis and a host of other painful and chronic ailments to give them "God's own medicine," dangled tantalizingly before their eyes as a safe drug by deKruif, who surely must have known that Demerol is regarded by law as a narcotic drug, and that its sale is just as tightly regulated as is that of morphine or cocaine. . . .

Doctors and informed laymen alike wonder why a magazine like the Reader's Digest, which has in the past enjoyed an enviable reputation for reliability, will jeopardize that standing by repeatedly publishing such material. Why are these articles not submitted to recognized medical authorities before publication? Does the public actually demand sensationalism rather than accuracy in its medical information? Do people enjoy deception so much that they welcome having their hopes of cure raised to the sky only to be cruelly dashed to earth? Or is there significance in the fact that de Kruif plugs proprietary drugs?—*E. T. R. in The Bulletin of the Los Angeles County Medical Association, July 4, 1946.*

Society of Anesthesiology to Meet

All physicians interested in anesthesiology are invited to attend a dinner meeting of the Kansas City Society of Anesthesiology at 6:00 p.m., October 6, preceding the opening session of the Kansas City Southwest Clinical Society. Dr. John S. Lundy, president of the American Society of Anesthesiology, will be guest speaker. Complete information may be secured from Paul H. Lorhan, M.D., Director of Anesthesiology, University of Kansas Hospitals, Kansas City, Kansas.

Clinical Society Meeting in Kansas City

The Kansas City Southwest Clinical Society will present its 24th annual fall conference in the Municipal auditorium, Kansas City, Missouri, October 7-10, 1946, with Dr. L. L. Bresette, president, in charge. Scientific sessions will be held in the Little Theater, and a number of prominent speakers will take part in the program. Dinners for alumni of the University of Kansas and the University Medical College will be held Wednesday evening, October 9.

A complete program of the conference appears in the September-October issue of the Kansas City Medical Journal, and copies may be secured from the office at 630 Shukert Building, Kansas City 6, Missouri. A list of speakers may be found in the advertisement on Page 407 of this Journal.

College of Physicians to Meet

The American College of Physicians announces that its 28th annual session will be held in Chicago April 28-May 2, 1947, with Dr. David P. Barr, New York, president, in charge of the program. Dr. LeRoy H. Sloan, Chicago, is general chairman and will be in charge of the program of hospital clinics and panels. Complete information may be secured from Mr. Edward R. Loveland, executive secretary, 4200 Pine Street, Philadelphia 4, Pennsylvania.

24th Annual Fall Clinical Conference

The Kansas City Southwest Clinical Society

Municipal Auditorium, Kansas City, Missouri

October 7, 8, 9, 10, 1946

GUEST SPEAKERS

E. T. BELL, M.D., Pathology, Minneapolis
LOUIS A. BUIE, M.D., Proctology, Rochester
RICHARD B. CATTELL, M.D., Surgery, Boston
WARREN H. COLE, M.D., Surgery, Chicago
CHARLES A. DOAN, M.D., Int. Med. & Research, Columbus
A. I. FOLSOM, M.D., Urology, Dallas
L. H. GARLAND, M.D., Radiology, San Francisco
TINSLEY R. HARRISON M.D., Int. Med. & Cardiology, Dallas
PAUL H. HOLINGER, M.D., OORL & Bronchology, Chicago
JOHN S. LUNDY, M.D., Anesthesiology, Rochester
PAUL B. MAGNUSON, M.D., Orthopaedics, Washington, D.C.
WALTER L. PALMER, M.D., Int. Med. & Gastroenterology, Chicago
HERBERT E. SCHMITZ, M.D., Obstetrics & Gynecology, Chicago
R. GLEN SPURLING, M.D., Neurosurgery, Louisville
WILLARD VAN HAZEL, M.D., Surgery, Chicago
E. H. WATSON, M. D., Pediatrics, Ann Arbor

DAILY FEATURES: Radio Broadcasts — Round Table Luncheons — Scientific Exhibits and Movies — Technical Exhibits — Women's Entertainment

SPECIAL FEATURES—Monday Evening: Clinicopathologic Conference.
Tuesday Evening: Stag Dinner and Entertainment.
Wednesday Evening: Alumni Dinners.

See Kansas City Medical Journal for complete program

THE
Lattimore Laboratories

TOPEKA, KANSAS

J. L. Lattimore, M.D., ***Director***

A. C. Keith, B.S., ***Chemist***

H. C. Ebendorf, M.T., ***Serologist***

PATHOLOGY, SEROLOGY, CHEMISTRY, BACTERIOLOGY, HEMATOLOGY AND PARASITOLOGY

Containers furnished upon request.

OFFICES:

Topeka, Kan. **El Dorado, Kan.** **Sedalia, Mo.** **McAlester, Okla.**

Postgraduate Education Fund

The Kansas doctors who voluntarily contributed to a fund honoring returned medical officers from Kansas will be glad to know that this money is being used. Up to the present, 64 doctors have received financial assistance for the purpose of acquiring graduate education. Any medical officer who entered the service from Kansas is not only eligible but is most cordially invited to participate in this benefit.

The House of Delegates determined that these gifts should represent an expression of gratitude on the part of those who remained at home during the war. To date less than one-fourth the fund has been used, and the Postgraduate Education Committee, in a meeting last month, requested that additional information be published in the Journal stating again that all doctors eligible under this program who are taking graduate education are requested to write either the Executive Office, 406 Columbian Building, Topeka, Kansas, or Dr. H. H. Jones, Winfield. The letter need only state the veteran doctor's intention of taking graduate training and when and where this will be. After the letter has been approved by the committee, a check will be sent. While the gift will not nearly pay all expenses, it will at least assist in that direction and offer to the medical officer an expression of gratitude somewhat more tangible than words only.

Again to the doctors who donated to the postgraduate fund: The Committee on Postgraduate Education has received many letters of gratitude from recipients of this fund. Since the thanks is intended not for the committee but for each person who donated, a few sample comments are given below:

February, '46—"I wish to acknowledge and express to the Society my thanks for the help at this time."

July, '46—"I wish to acknowledge . . . and express my appreciation to the Kansas Medical Society."

May, '46—"Many of us who were overseas . . . have real need for 'refresher medical knowledge.' Your check will help."

June, '46—"Since my discharge from the Army the Medical Society has shown me nothing but the utmost kindness and consideration."

April, '46—"This check will certainly come in handy when I am paying for books and equipment."

June, '46—"The generosity of the individual contributors and the spirit of the fund are, I believe, more gratifying than the actual monetary benefit."

June, '46—"I want you to know that I appreciate the sentiment back of this. . . . Please express my thanks to everyone."

May, '46—"Obviously I cannot thank each member of the Kansas Medical Society, but I appreciate the 'helping hand.'"

May, '46—" . . . certainly a kind act and forethought by the members of the Kansas Medical Society. . . . It is my hope to carry on the high standard of the organization."

August, '46—"I certainly appreciate the spirit of the members of the Society who have contributed to the Graduate Education Fund, making this gift possible. You may be sure that is being used to good advantage."

After experience of something over a year with this program, the committee has two comments to make to the Society. First is the wish that the fund could have been large enough to enable payments sufficient to care for all expenses. Second is the hope that some day the Society will create a fund for postgraduate education for all members. This will be distributed in a different manner, perhaps to defray expenses of providing speakers. Details can be decided later, but the value of a permanent fund for graduate education seems to have been established.

New Doctors in Kansas

A number of doctors who have been serving in the armed forces, and others who have never before practiced in Kansas, are planning to open offices in the state soon. Among these is Dr. Michael Scimeca, recently discharged from the Army after 27 months' service, who will open an office in Caney. Dr. M. C. Marchand, who was associated in practice with Dr. H. C. Embry at Great Bend before entering the Navy, will practice in Macksville. It is also reported that Dr. Lindell C. Owensby, a graduate of the medical school at Washington University, will practice in Mankato.

The town of Bird City, which has had no resident physician, reports that Dr. Robert Gottschalk of Benkelman, Nebraska, will practice there. Dr. J. M. Shearer and Dr. E. M. Donald, both of whom were recently released from the armed forces, will practice in Caldwell and are making arrangements to re-open the hospital there on an open staff basis. Dr. Robert A. Crawford, formerly of Vermillion, South Dakota, has joined the staff of the Gage-Hall clinic at Hutchinson.

Dr. Charles Magee, who has been practicing in Wichita since his return from Army service, plans to open an office in Marion, and Dr. E. C. Beaty has announced the opening of his office in Parsons. Dr. V. G. Henry has moved to Anthony to practice in association with Dr. M. B. Flowers at the Community hospital. Another man recently released from the Navy, Dr. R. E. Schnoebelen, will begin practice in Kansas, locating at Kinsley. Dr. Robert E. Allen, now serving in the Navy in St. Louis, will be released soon and will join the staff of the Student Health Service, University of Kansas, at Lawrence.

Fall Conference in Oklahoma City

The Oklahoma City Clinical Society will present its 16th annual fall clinical conference in Oklahoma City, October 28-31, 1946. Lectures are dedicated to the needs of general practitioners, and 17 distinguished guests from various cities of the United States will present phases of medical advancement with which they have been identified from research and clinical viewpoints.

The complete program is designed for physicians who wish to acquire new ideas, restore forgotten points and polish up on useful information. There will be a large number of technical exhibits. Hotel reservations should be made immediately.

Surplus Commodities

(Continued from Page 403)

Changes in the Act provide that individual veteran physicians, dentists and veterinarians have priority over any other individual or institution except agencies of the federal government. This places the physician in a more favorable position than before with respect to other prospective purchasers of surplus commodities. Regional offices will advise concerning items, quantities, conditions, prices, availability and location of material and should be contacted for any business pertaining to surplus commodities.

Information! —ABOUT THE NEW

Campbell's STRAINED BABY SOUPS

Q. What are the ingredients in Campbell's Strained Baby Soups?

A. Campbell's use carefully selected meats, cereals and those vegetables scientifically recognized as having the most desirable nutritive qualities. All the food properties are natural. Because Campbell's are accustomed to purchasing only selected meats and vegetables, the best is assured for Campbell's Strained Baby Soups.

Q. What about vitamin and mineral retention?

A. The latest scientific information has been drawn upon in the development of a cooking method to insure the effective conservation of vitamins and retention of minerals.

Q. When should Baby be started on strained soups?

A. Campbell's Strained Baby Soups can be started as early as any strained baby foods. Depending upon the baby, pediatricians recommend beginning between the ages of three and six months.

Q. What about the flavor of Campbell's Strained Baby Soups?

A. Every mother wants her baby's food to be palatable. Campbell's preparation and cooking methods have been devised to retain natural flavors insofar as possible. Babies develop food preferences early, accept some foods, reject others. Their acceptance of Campbell's Strained Baby Soups is indicated by the increasing demand for these soups wherever they have been introduced.

A comprehensive analysis of each soup may be had upon application to Campbell Soup Company, Camden, New Jersey.

5 KINDS:

CHICKEN
BEEF
LAMB
LIVER
VEGETABLE

All in Glass Jars

Campbell's Strained Baby Soups represent fine quality . . . in ingredients . . . in care and method of cooking . . . in retention of minerals and conservation of vitamins . . . and in good flavor. Every resource of Campbell's Kitchens is devoted to that aim.

LOOK FOR THE RED-AND-WHITE LABEL

Testimony on Physically Handicapped

It will be of interest to the physicians of Kansas to learn that the chairman of the Kansas Crippled Children Commission traveled to Washington to testify before the Subcommittee on Aid to Physically Handicapped of the Committee on Labor of the House of Representatives. This testimony is more interesting than some because it represents an agency that now operates under a form of socialized medicine. For the attitude of Mr. Charles J. Chandler of Wichita, of the Kansas Crippled Children Commission, we recommend you read the testimony which is printed below.

"We are grateful to have the opportunity to present testimony in behalf of those in Kansas who have a great interest in the crippled children of our state. We are deeply concerned with the measure you are considering, for, while there is no doubt need for adjustment in the legislation now on the federal statutes as it pertains to these children, this bill as now proposed will very seriously affect the program for the welfare of such children in Kansas, and, we believe, elsewhere.

"It is not the intention to make a detailed recital of the operation of the program for the care of the crippled child in Kansas. In order, however, that you may have an understanding of the effect of this proposed legislation in a typical state may it be said that for over 15 years the state of Kansas has furnished annually, from its own tax revenue, $200,000 for the medical care of its crippled children. To this, under the Maternal and Child Welfare Act as amended in 1939 the Department of Labor, through the Children's Bureau, has, in recent years, contributed amounts varying from $93,722 in 1941 to $36,250 in 1943, or an average of $51,991 over the years 1940 to 1945 inclusive, to provide administration facilities, visiting nurses, and other valuable services in supplement to the state's program. It will, therefore, be seen at the present time the state is contributing approximately three-fourths of the money administered and the federal government the other one-fourth.

"Now there is introduced into Congress the legislation which you are considering and which, under Title Two thereof, makes it mandatory that the Crippled Children Commission of Kansas, if it is to continue to secure these federal funds in the future, must submit to the Children's Bureau each year a plan which is basically contrary to the statutes of our state, and would make it necessary for us to abandon the use of federal funds in our program, or insist that the legislature of Kansas abolish principles which we feel are basically inherent to sound self-government.

"The most important of the provisions in the law which are disturbing to us is that portion of Part Three in Section 205 which, we are advised, requires that the plan to be submitted to the Chilren's Bureau each year must make the services and facilities of the Commission available to all residents of the state regardless of their ability to pay for the care and treatment they receive. If this is the intention of the framers of this bill, then we in Kansas are faced with the alternative of foregoing the receiving of our share of the federal funds allotted for the use of crippled children throughout the nation, or of asking our legislature to inaugurate a program of state medicine so far as the care of our crippled children is concerned. It is our judgment that the Kansas legislature could not, and would not, do this. There cannot, to our way of thinking out in Kansas, be any emergency at this time or justification otherwise which should make the state or federal government responsible for the care of anyone who is financially able to pay his own way. We most sincerely feel that such a move would seriously undermine the individual responsibility of our citizens which we believe to be a basic requirement for the successful continuance of our form of government. We most respectfully and most earnestly urge the amendment of Section 205 of the bill under consideration to include therein a provision that the medical care, under the plans to be submitted, will not be made available without cost to those who can justly pay for part or all of the services rendered.

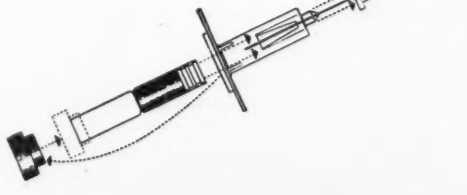
"The bill further provides that after July 1, 1950, the crippled children programs to receive federal support must be the responsibility of the state health agency in each state. Today these programs are administered by various bodies and it is understandable that there might be a desire in the interest of uniformity to put them under one type of agency in all states. In our judgment, however, this change is not justifiable where an agency such as a Crippled Children Commission is functioning effectively, and has had a record of many years of successful administration. The functions of the State Board of Health are primarily those of epidemic control, routine sanitary inspection, dissemination of information regarding contagious diseases, and in the field of education generally. The administration of a state program for the care of the crippled child can, in our judgment, be much more effectively carried forward by an independent commission, and we believe the records of the soundly constituted commissions in a number of states will justify this assertion. Since 1931, when the Crippled Children Statute was placed on the books of Kansas, the Crippled Children Commission has held 195 clinics throughout the state in which 10,255 examinations have been made, and has hospitalized over 9,300 children and given them, we believe, a quality of care and treatment, attention and interest, that only a sympathetic, intelligent, non-political and independent organization can provide.

"An asset of inestimable value to any program such as this is the interest and attention of capable and intelligently sympathetic citizens. This is more possible, we feel, when the program is in the hands of a competent non-political commission than in any other manner. It would be a very great loss to Kansas, and, no doubt, the situation is similar in other states where the program is capably administered by a separate organization, if the responsibility for the crippled child became just another function of the state department of health, as ably as that department of our state government in Kansas is administered at this time. It is, therefore, the very earnest request of those of us out in Kansas who are deeply interested in the crippled child, that the portion of Part Four of the above named Section 205, which is intended to eliminate the functioning of independent crippled children commissions, be amended to provide that in states where such a commission is effectively administering its program that it shall not be disturbed.

"We appreciate the opportunity to present these suggested amendments to the proposed legislation, and respectfully request the Committee's favorable consideration of them."

Our ideas of sanatorium treatment are changing. Perhaps the most important change is the gradual realization of the influence of mental and emotional factors upon organic disease. For too many years, attention has been focused on the organ in which tuberculosis disease has developed, and physicians have ignored the fact that tuberculosis patients are also human beings. Contributing to this attitude has been the false assumption that tuberculous persons are always cheerful, happy, and hopeful of the future. *Ann'l Rep't., Cattaraugus Co. (N.Y.) Health Dept., 1944.*

As easy as . . .



That's just about how quickly and easily you can get ready for an injection of Abbott's Romansky formula of penicillin calcium in oil and wax when you use a new sterile Disposable Cartridge Syringe. Here's why: No further sterilization of syringe and needle. No drying. No complications from traces of water. No trouble of drawing the fluid from a bulk container. No wasted suspension. And, last but not least, no need to bother about cleaning the needle and syringe afterwards. *Just throw them away.* Each set consists of a disposable plastic syringe with an affixed standard 20-gauge, 1½-inch stainless steel needle and a glass cartridge-plunger containing a 1-cc. dose of 300,000 units of penicillin suspended in peanut oil and beeswax. You will find the set complete, compact, easy to carry and ready to use. Demand sometimes outstrips supply, but we're making more sets every day. ABBOTT LABORATORIES, North Chicago, Illinois.

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Disposable Syringe and Cartridge Set

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New Doctors of Medicine

The Kansas State Board of Medical Registration and Examination has announced the names of a number of doctors who have been issued licenses to practice within the state. The following persons were awarded licenses on the basis of examinations or by reciprocity:

Akey, Robert M., Pittsburg, Kansas
Allen, William R., Kansas City, Kansas
Anderson, William D., Claremore, Oklahoma
Atcheson, Bellfield, Kansas City, Kansas
Austin, John O., Garden City, Kansas
Balogh, Charles J., Wichita, Kansas
Barnard, Ruth I., Topeka, Kansas
Barrett, Harle V., St. Marys, Kansas
Barry, John W., Kansas City, Missouri
Becker, Paul G., Newton, Kansas
Beine, William R., Coffeyville, Kansas
Braun, William T., Pittsburg, Kansas
Bressette, James E., II, Kansas City, Kansas
Brewer, Marshall A., Kansas City, Kansas
Brinton, Edward S., Wichita, Kansas
Brookens, Norris L, Topeka, Kansas
Brownlee, William E., Kansas City, Missouri
Bunting, Williston P., Kansas City, Missouri
Burger, Junior D., Menlo, Kansas
Burns, Warren W., Manhattan, Kansas
Byers, Philip L., Kansas City, Kansas
Cain, Alvin R., Kansas City, Missouri
Chappell, Ewin S., Topeka, Kansas
Choy, James King Lee, Topeka, Kansas
Christ, Vincent A., Leavenworth, Kansas
Christman, Edmund E., Joplin, Missouri
Clement, Conrad C., Olathe, Kansas
Combs, Peter S., Leavenworth, Kansas
Conrad, Joseph A., Dodge City, Kansas
Conroy, John C., Atwood, Kansas
Crouch, Boyden L., Kansas City, Missouri
Crowley, Edward X., Jr., Chicago, Illinois
Cruse, Donald R., Kansas City, Missouri
Cutcliff, Daniel J., Omaha, Nebraska
Dieter, Donald D., New Orleans, Louisiana
Dreyer, William F., Independence, Kansas
Earl, Charles N., Cottage Grove, Oregon
Ewing, Thomas D., Lyons, Kansas
Fink, Abraham A., Kansas City, Kansas
Fink, Howard P., Winfield, Kansas
Flack, Frank E., Wichita, Kansas
Francis, Norton L., Wichita, Kansas
Friesen, Florence C., Greensburg, Kansas
Garner, Fay L., Manhattan, Kansas
Gilliland, James O., Herington, Kansas
Gloyne, Howard F., Kansas City, Kansas
Gouldman, Edwin F., Topeka, Kansas
Hale, Ralph, Kansas City, Missouri
Handley, Richard N., Omaha, Nebraska
Harden, Bernard L., Parsons, Kansas
Hatcher, Albert C., Wellington, Kansas
Heasty, Robert G., Manhattan, Kansas
Hershorn, Simon E., Omaha, Nebraska
Hoak, Carl G., Kansas City, Missouri
Hoedemaker, Edward D., Topeka, Kansas
Hoff, Donald E., Wichita, Kansas
Holley, Charles A., Kansas City, Missouri
Huebert, Dan W., Halstead, Kansas
Huebert, Dean A., Halstead, Kansas
Hunnicutt, Cecil G., Sabetha, Kansas
Hunter, Charles A., Jr., Topeka, Kansas
Jenkins, Melvin E., Jr., Kansas City, Kansas
Jenson, Robert L., Colby, Kansas
Jewell, Maurice L., Kansas City, Missouri
Johnson, Charles A., Kansas City, Kansas
Johnson, Edward A., Kansas City, Kansas
Johnson, James S., Kansas City, Missouri
Johnson, Lawrence W., Osage City, Kansas
Jones, Asa C., Jr., Horton, Kansas
Jones, Rodney H., Goodland, Kansas
Jones, Sam, Hutchinson, Kansas
Kasha, Robert L., Valley Center, Kansas
Kendrick, J. Gilleran, Wichita, Kansas
Kerr, Richard K., Lincoln, Kansas
Kieber, Robert W., St. Joseph, Missouri
Kinsey, Mary E., Kansas City, Kansas
Kline, Duane M., Jr., Baxter Springs, Kansas
Larsen, William E., Wichita, Kansas
Litton, Lyle D., Stockton, Kansas
Litton, Lynn O., Stockton, Kansas
Lloyd, Donald E., Emporia, Kansas
Lloyd, Harvey L., Kansas City, Kansas
Lyons, Dave J., Pittsburg, Kansas
McGowan, Edwin C., Victoria, Kansas
McNickle, Jerry H., Ashland, Kansas
McLain, Kenneth, Burrton, Kansas
Macrae, Donald H., Topeka, Kansas
Marchbanks, James J., Pittsburg, Kansas
Mathews, Hugh H., Hoyt, Kansas
Menaker, Jerome S., Wichita, Kansas
Miller, Don E., Kingman, Kansas
Miller, Herbert C., Jr., Kansas City, Kansas
Monroe, Carroll D., Selma, Kansas
Mosser, Donn G., Wichita, Kansas
Mueller, Adolph R., Leavenworth, Kansas
Mullen, Leo M., Kansas City, Missouri
Murphy, Franklin D., Kansas City, Missouri
Myers, Wilson E., Kansas City, Missouri
Nelson, Gust H., Jr., Kansas City, Missouri
Nice, Gerald W., Parsons, Kansas
Nininger, Eugene V., McPherson, Kansas
Nunemaker, Marion E., Langdon, Kansas
Owensby, Lindell C., Mankato, Kansas
Parker, Bernard B., Topeka, Kansas
Parker, Clark T., Emporia, Kansas
Parker, Elmer L., Kansas City, Missouri
Passmore, Mildred R., Chicago, Illinois
Peck, James H. A., St. Francis, Kansas
Peterson, Van D., Jr., Kansas City, Missouri
Phelps, Stephen R., Topeka, Kansas
Poling, Fowler B., Halstead, Kansas
Proctor, James T., Wichita, Kansas
Read, William T., Coffeyville, Kansas
Reals, William J., Omaha, Nebraska
Reed, Darwin C., Wichita, Kansas
Reed, Rheva, Norton, Kansas
Reedy, Richard N., Omaha, Nebraska
Reitz, Carl H., Kansas City, Missouri
Rhoades, Arthur B., Merriam, Kansas
Rich, Eldon S., Newton, Kansas
Richards, Francis L., Coffeyville, Kansas
Richert, Robert C., Newton, Kansas
Robbins, Agnes L., Kansas City, Kansas
Roberts, Howard E., Topeka, Kansas
Robertson, Howard T., Concordia, Kansas
Robinson, Leo D., Iola, Kansas
Robinson, Murray E., Goodland, Kansas
Ruzicka, Lawrence J., Belleville, Kansas
Sandell, James E., McPherson, Kansas
Saxe, Lovis P., Trenton, New Jersey

to combat

mental depression in the menopause

". . . because the involutional period is fraught with sadness the different forms of mental disorder of this age may be highly colored with mental depression."*

Severe menopausal depression, marked by apathy and psychomotor retardation, is frequently progressive. Hence, if not promptly and effectively treated, it may seriously impair the patient's normal capacity for useful living.

In such cases, Benzedrine Sulfate helps to overcome the depression, to restore optimism and to reawaken the savor and zest of life. Needless to say, Benzedrine Sulfate is not indicated in the casual case of low spirits, as distinguished from true prolonged mental depression.

*Hinsie, Leland E.: The Person in the Body, an Introduction to Psychosomatic Medicine, New York, W.W. Norton & Co., 1945, p. 223.

Tablets and Elixir

benzedrine sulfate

(racemic amphetamine sulfate, S.K.F.)

Smith, Kline & French Laboratories, *Philadelphia, Pa.*

Schafer, Walter L., Wichita, Kansas
Schaffer, Richard C., Kansas City, Missouri
Schnoebelen, Rene E., Kinsley, Kansas
Scott, John R., Newton, Kansas
Seitz, Joseph E., Ellsworth, Kansas
Shifrin, Alexander, Kansas City, Missouri
Shinkle, Anna I., Mound City, Kansas
Shinkle, William C., Mound City, Kansas
Siegel, Carl D., Ellis, Kansas
Sixbury, Carl E., Oberlin, Kansas
Smith, William T., Topeka, Kansas
Staggs, William A., Kansas City, Missouri
Steeples, George L., Jr., Wichita, Kansas
Stockton, Raymond W., Kansas City, Kansas
Stortz, Robert B., Galena, Kansas
Street, Glenn Q., Jr., Wichita, Kansas
Surber, Maxine A., Wichita, Kansas
Svoboda, Charles R., Holyrood, Kansas
Tanner, John W., Omaha, Nebraska
Thurlow, John F., Kansas City, Missouri
Tilden, James F., Wichita, Kansas
Tinterow, Maurice M., Wichita, Kansas
Trees, Donald P., Wichita, Kansas
Treger, Donald M., Independence, Kansas
Virden, Herbert H., Kansas City, Missouri
Voth, Harold W., Goessel, Kansas
Wallace, Deane D., Norwich, Kansas
Walton, Lowell C., Kansas City, Missouri
Wartman, Calvin, Pierceville, Kansas
Weinberg, Bernhard J., Coffeyville, Kansas
Whallon, Jacob T., Wichita, Kansas
Wilbur, Ronald E., Kansas City, Missouri
Wilen, Carl J. W., Manhattan, Kansas
Winkle, Vernon M., Topeka, Kansas
Wright, Emory N., Jr., Salina, Kansas
Young, Clarence F., Kansas City, Kansas
Ziegler, James E., Junction City, Kansas

MEMBERS

Dr. E. N. Robertson, Concordia, announces that Dr. John Dixon, formerly of Kansas City, will soon be associated with him in practice. A graduate of the University of Kansas School of Medicine, Dr. Dixon spent several years in the Army and was recently released from the service.

* * *

Dr. C. H. Munger, Emporia, has returned to his duties as Lyon county health director after an absence of several months while he did graduate work in public health at the University of Michigan.

* * *

Dr. H. P. Gray, who has been practicing in Seneca for eight years, has joined the Veterans Administration staff and is now practicing internal medicine at Winter General hospital, Topeka. His practice in Seneca is being taken over by Dr. J. Howard Gilbert of Tonkawa, Oklahoma, who was recently released from the Army medical corps.

* * *

Dr. Kenneth L. Druet has returned to his practice in Salina after having spent 46 months in military service. As a lieutenant colonel, Dr. Druet served as chief of the bronchopulmonary, thyroid and arthritis section at William Beaumont general hospital, El Paso, Texas.

* * *

Dr. Russell Nevitt, who recently opened an office in Iola after his discharge from the Army, has been named Allen county health officer, succeeding Dr. A. R. Chambers, resigned.

* * *

Dr. Charles F. Haughey, who has been practicing in Anthony for four years, is planning to open an office in Tribune soon.

* * *

Dr. Robert F. Harp, Highland, announces that he is moving to Hoxie and will open an office there.

* * *

Dr. Charles R. Magee, formerly of Wichita, has opened an office in Marion and is now practicing there.

* * *

Dr. Samuel T. Thierstein, Whitewater, has announced that he is now associated with the Olney clinic at Lincoln, Nebraska, as obstetrical and gynecological specialist.

* * *

Dr. William C. Menninger, Topeka, has been appointed a member of a clinical advisory committee to foster close relations between civilian and Army medicine, according to an announcement made recently by Secretary of War Patterson.

* * *

Dr. Robert M. Drisko, who formerly practiced in DeSoto, is now in New York City for three years study in orthopedic surgery.

* * *

Brig. Gen. William C. Menninger, who served as director of neuropsychiatric consultants division of the Surgeon General's office in Washington during the war, is now on terminal leave and has returned to Topeka. He will practice at the Menninger Foundation and will serve as consultant to Winter General hospital.

* * *

Dr. Oliver Martin, who practiced in Baxter Springs before entering the service, recently announced his association with the Salina Clinic.

* * *

Dr. J. J. Brenneman, Moundridge, will leave this month for the Philippine Islands to become a medical missionary for the Mennonite Central Relief Committee. The office in Moundridge will be taken over by Dr. Delbert V. Preheim, who recently returned from similar work in Puerto Rico.

* * *

Dr. James G. Lee, Jr., who has been assisting Dr. K. F. Bascom in Manhattan recently, took over his father's practice in Bonner Springs during August and went to Iowa City September 1 to begin a residency in obstetrics and gynecology.

* * *

Dr. Malcolm C. Murfitt, who was discharged from the Army in June, has announced the opening of an office in Lindsborg.

* * *

Dr. C. F. Taylor, superintendent of the state sanatorium at Norton, was elected president of the American Academy of Chest Physicians at a meeting held at San Francisco in June.

* * *

Dr. M. D. McComas, Jr., Courtland, has made arrangements to spend part of each week in an office he is opening in Jamestown.

* * *

Dr. Charles H. Johnson, recently discharged from the Army medical corps, has announced the opening of an office in Osawatomie. Before entering the service, Dr. Johnson practiced in Kinsley.

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The Bethel clinic at Newton has announced that Dr. Robert W. Myers, former teacher of anatomy at the University of Kansas School of Medicine and resident surgeon at the school, has been added to its staff. His work at the clinic will be confined to surgery.

* * *

Dr. E. C. Bryan, Erie, announces that he will be associated in practice in the future with Dr. Howard Dunham, who was recently separated from the Navy. The partnership will practice as the Erie clinic.

* * *

Dr. Albert Martin, Coffeyville, has announced that his brother, Dr. Hubert Martin, was discharged from the Army last month and will be associated with him in practice in Coffeyville soon.

* * *

Dr. Robert W. Robb, a member of the medical staff at the Osawatomie state hospital since 1929, has resigned to become assistant superintendent at the Iowa state hospital at Independence, Iowa. He was engaged in private practice in Olathe before going to Osawatomie.

* * *

Dr. Dale C. McCarty, who practiced at Nashville before becoming a company physician for the Firestone Tire and Rubber company at Akron, Ohio, is planning to open an office in Medicine Lodge soon. During the past five years he has been serving in the Army medical corps.

* * *

Dr. Fay L. Garner, formerly of Seward, Nebraska, is now associated in practice with Dr. Ralph G. Ball, Manhattan. Now on terminal leave from the Army, Dr. Garner served as a major overseas in the 125th Evacuation hospital in France and Germany, a hospital unit commanded by Dr. Ball.

* * *

Dr. Byron W. Walters, who has been practicing in McPherson and maintaining a part-time office in Marquette, has moved to Marquette to continue his practice there on a full-time basis.

* * *

Dr. Russell J. Maxfield, who was recently released from the Navy, is now associated in practice with Dr. O. W. Miner, Garden City.

* * *

Dr. Robert C. Gribble, who practiced in Spearville before entering the Army four years ago, has announced the opening of an office in Dodge City.

* * *

Dr. Leo F. McKee has begun practice in Cottonwood Falls. During the past four years he has served in the armed forces, and before that time he was located in Hiawatha.

* * *

Dr. Frederic O. Epp, formerly of Wichita, has moved to Valley Falls and is now practicing there.

* * *

Dr. E. G. Coyle, Coffeyville, has announced that his son, Dr. John F. Coyle, who was released from the Navy in July, will be associated with him in practice.

* * *

Dr. C. C. Hawke, Winfield, was elected president of the new Cowley County Health board at a meeting held in July. Dr. Thomas R. Hood, county health officer, was named secretary-treasurer of the board.

* * *

Dr. William G. Weston, Dr. Garland L. Campbell and Dr. George Arack are members of a medical group known as the Weston clinic, practicing in Arkansas City.

The Public Relations Office of Dibble General Hospital, Menlo Park, California, has released the following citation for the Army Commendation Ribbon for Lt. Col. Maurice A. Walker, Kansas City, who was recently released from the service: "For meritorious service as Safety Consultant, Baxter General Hospital, Spokane, Washington, from 1 January 1944 to 15 October 1945. In addition to his duties as chief of surgical service, Col. Walker was responsible for conducting and maintaining a safety program which, through his zeal and unremitting efforts, resulted in an outstanding record of 4,312,316 manhours of work accomplished without loss of time due to accidents. His superior performance of duty contributed materially to the welfare of employees at this hospital."

* * *

Dr. Edwin P. Deal, who has been practicing in Dighton, has moved to Greensburg and is opening an office there.

* * *

Dr. Ernest P. Carreau, who was recently released from the Navy, has announced the opening of an office in Mulvane.

* * *

Dr. William J. Hatfield, who formerly practiced in Colony, has retired and is now living in Topeka.

* * *

Col. R. W. Van Deventer advises the Journal that his address has changed from Veterans Administration Facility, Muskogee, Oklahoma, to Wellington, where he formerly practiced.

* * *

Dr. W. J. Pettijohn, who has been practicing in Kiowa, has moved to Russell.

* * *

Dr. Howard E. Snyder, Winfield, is one of a group of 58 civilian surgeons appointed as consultants to the Secretary of War through the Surgeon General, according to a recent announcement made by the War Department. Located strategically throughout the country, the specialists were appointed as part of the Army Medical Department's program to maintain the highest possible standards of medical practice. Their aim will be to evaluate, promote and improve, wherever possible, the quality of medical care given the American soldier.

County Societies

Members of the Crawford County Medical Society entertained their wives at a social meeting at the Hotel Besse, Pittsburg, June 27. Dr. F. H. Rush welcomed the guests and Mrs. C. H. Benage responded. Dr. D. H. Woods introduced other guests who presented a musical program.

* * *

Thirty members of the Central Kansas Medical Society, representing seven counties, attended a quarterly meeting held at Russell June 27. Afternoon and night sessions were held with Dr. Peter T. Bohan, Kansas City, as guest speaker.

Mass surveys of chests with x-rays often find, but do not necessarily identify, disease. *Editorial, The Ohio State Medical Journal, April,* 1946.

* * *

Tuberculosis is always a dangerous disease. In the Navy it has exceptional significance because of the unavoidable close quarters of existence, the importance of continuous physical fitness and the rich resources available for its control by exclusion, prevention, detection and care. *Emil Bogen, M.D., and G. H. Strickland, M.D. The Am. Rev. of Tbc., Dec., 1945.*

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To all appearances a normal, healthy, vigorous child, but what are the investigators' findings . . .

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the incidence of rickets is astonishingly high in children of *all* age groups. Examination of 230 children aged *2* to *14* years, at Johns Hopkins revealed histologic evidence of rickets in 46.5 per cent, with a high of 62 per cent in the 10 to 11 year old group.[1] Similarly of 943 seemingly "normal" pre-school children 90 per cent exhibited symptoms of rickets.[2]

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1. Follis, R. H. Jr.; et al: Am. J. Dis. of Child., *66*:1-11 (July) 1943.

2. Moore, C. U.; et al: Am. J. Dis. of Child., *54*:1227-28 (Dec.) 1937.

3. Park, E. A.: Vitamin D Therapeutics, THE VITAMINS, A. M. A., Chicago, 1937.

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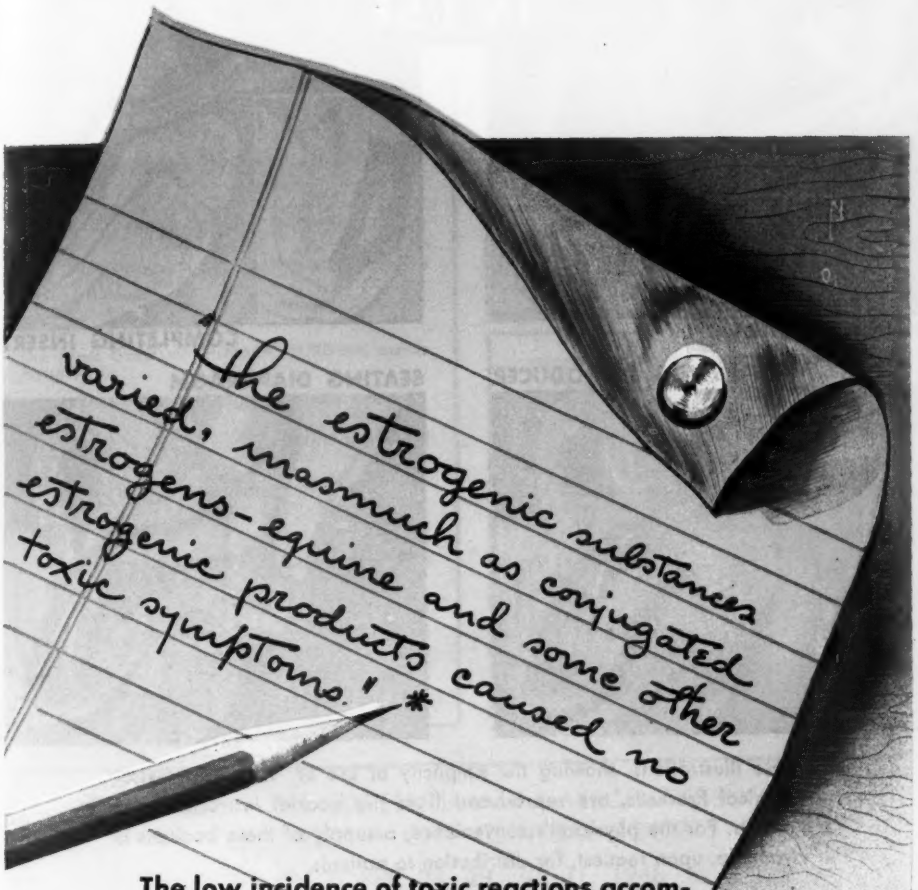
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*Harding, F. E.: Am. J. Obst. & Gynec., 51:880 (May) 1946

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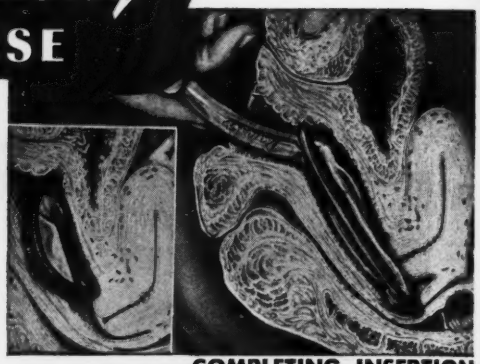

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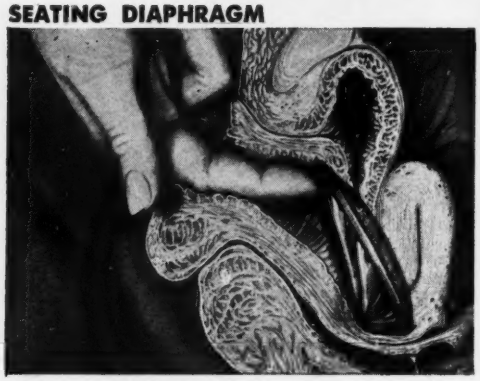

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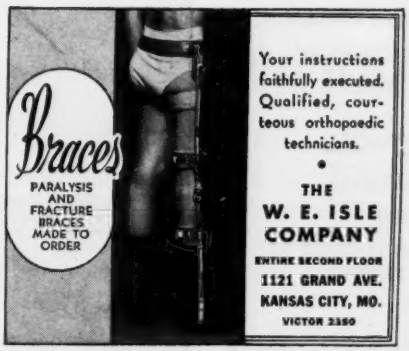

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OCTOBER 28, 29, 30, 31, 1946

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Charles L. Brown, M.D., MEDICINE, Hahnemann Medical College Philadelphia, Pennsylvania.

Samuel A. Cosgrove, M.D., OBSTETRICS, Clinical Professor of Obstetrics, Faculty of Medicine, Columbia University; Medical Director and Superintendent and Chief of the Staff, Margaret Hague Maternity Hospital, Jersey City, New Jersey.

Claude F. Dixon, M.D., SURGERY, Professor of Surgery, Mayo Foundation, Postgraduate School, University of Minnesota, Rochester, Minnesota.

Austin I. Dodson, M.D., UROLOGY, Professor of Urology; Urologist to Hospital Division, Medical College of Virginia, Richmond, Virginia.

Philip S. Hench, M.D., MEDICINE, Consultant and Head of a Section on Medicine; Chief of the Department for Rheumatic Diseases; Associate Professor of Medicine, Mayo Foundation, Postgraduate School, University of Minnesota, Rochester, Minnesota.

Waldo E. Nelson, M.D., PEDIATRICS, Professor of Pediatrics, Chief of the Pediatric Department, Temple University School of Medicine, Philadelphia, Pennsylvania.

Paul Padget, M.D., MEDICINE, Assistant Professor of Medicine, Johns Hopkins University School of Medicine; Veterans Administration, Fort Howard, Maryland.

Walter L. Palmer, M.D., MEDICINE, Professor of Medicine, Department of Medicine, University of Chicago, Chicago, Illinois.

Rawley M. Penick, Jr., M.D., SURGERY, Associate Professor of Clinical Surgery, Tulane University School of Medicine, New Orleans, Louisiana.

Leo G. Rigler, M.D., RADIOLOGY, Professor and Chief of the Department of Radiology and Physical Therapy, University of Minnesota School of Medicine, Minneapolis, Minnesota.

Richard H. Sweet, M.D., SURGERY, Instructor in Surgery, Harvard Medical School, Boston, Massachusetts.

Richard W. Te Linde, M.D., GYNECOLOGY, Professor Gynecology; Chief Gynecologist, Johns Hopkins University School of Medicine, Baltimore, Maryland.

James E. M. Thomson, M.D., ORTHOPAEDIC SURGERY, Lecturer in Plastic Surgery to the College of Dentistry, University of Nebraska; President, American Academy of Orthopaedic Surgeons, Lincoln, Nebraska.

O. E. Van Alyea, M.D., OTOLARYNGOLOGY, Clinical Associate, University of Illinois, College of Medicine, Chicago, Illinois.

Shields Warren, M.D., PATHOLOGY, Assistant Professor of Pathology, Harvard Medical School, Boston, Massachusetts.

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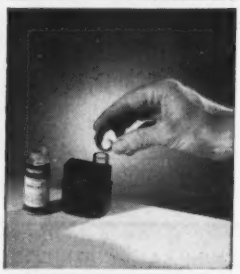

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DEATH NOTICES

CHARLES REES TOWNSEND, M.D.

Dr. Charles R. Townsend, 75, a member of the Nemaha County Medical Society, died at St. Joseph, Missouri, April 4, after a long illness. A graduate of Louisville Medical College and Jefferson Medical College in Philadelphia, Dr. Townsend began practice in Everest in 1901, later moving to Troy and Centralia. He was practicing in Centralia at the time of his death.

* * *

HENRY MILTON STEWART, M.D.

Dr. Henry Milton Stewart, 74, a member of the Reno County Medical Society, died August 15 of coronary heart disease. He was graduated from Rush Medical College in 1898 and was licensed in 1901. He had practiced in Hutchinson for many years, specializing in eye, ear, nose and throat work.

* * *

FRANK ELLSWORTH COFFEY, M.D.

Dr. Frank E. Coffey, 55, orthopedic surgeon at Hays, died August 28. A graduate of the University of Kansas School of Medicine in 1920, Dr. Coffey was licensed that year. In addition to membership in the Central Kansas Medical Society, he was a mmeber of the American Board of Orthopedic Surgery and the American Academy of Orthopedic Surgeons.

The Library of the Medical Department of the University of Kansas has every desire to be of service to the medical profession in the state. Any physician who wishes to avail himself of the facilities of the Library will be welcome both in the use of its periodicals, bound volumes of periodicals, and monographs and textbooks.

Under certain circumstances, provided the volumes are not being actively used by the students, the Library will send such volumes as are needed to physicians in the state, on request, for a period of one week, provided carriage charges are paid both ways.

THE UNIVERSITY OF KANSAS
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BOOK REVIEWS

Fractures, Dislocations and Sprains. Fourth Edition. By John Albert Key, B.S., M.D., and H. Earle Conwell, M.D., F.A.C.S. Published by C. V. Mosby Company, St. Louis, Missouri. 1322 pages. Price $12.50.

This book has proved itself through its earlier editions and the present one will keep up the excellent record established when the book was first published. Profiting by the experiences of the recent war, the section on the treatment of compound fractures has been extensively revised and improved, and those of the spine and hip have received considerable alterations, due to the changes in concepts of treatment of injuries in these localities.

The book is an excellent reference book, in which any desired material is readily found, and it is also a very readable book if one wishes to read more extensively than for a specific injury. One of the most striking features is the repeated presentation of two opposite methods of treatment, one favored by each of the two co-authors. Each has been satisfactory in use, and each is offered the reader for his choice. This work has been and will remain a standard text and reference for the treatment of fractures.—*Orville R. Clark, M.D.*

* * *

Autonomic Nervous System, The. By Albert Kuntz, Ph.D., M.D. Published by Lea and Febiger, Philadelphia 6, Pennsylvania. Third Edition, Revised and Enlarged, 687 pages. Price $8.50.

This standard reference book has, in its third edition, been extensively revised and partially rewritten and reorganized. It is an exhaustive survey of the autonomic nervous system, both from a general aspect and as it relates to each organ system of the body, in health and disease. It is carefully documented, but does not obsessively enter into the laboratory arguments of each controversial part. While this occasionally leads to dogmatic statements about still unsettled points, it actually enhances the value of the book for the student, general practitioner, and specialist. It is highly recommended for either reference or detailed study.—*Ruth I. Barnard, M.D.*

* * *

The Osseous System, a Handbook of Roentgen Diagnosis. By Vincent W. Archer, M.D. Published by the Year Book Publishers, Inc., Chicago. 320 pages, 148 plates, many of which include more than one radiograph. Price $5.50.

This little volume is one of a series of monographs on Roentgen diagnosis which has been published by the Year Book Publishers. This book is written by a capable roentgenologist, "for and . . . dedicated to the occasional radiographer." It is brief and very much to the point. Illustrations are profuse and unusually clear for such small reproductions. The practical nature of the book may be assumed from a glance at the various headings of chapters: "Technic: Principles of Interpretation: Roentgen Anatomy," "Injuries to the Skeletal System" (there is a separate chapter for the spine) "Bone Diseases and Abnormalities in Childhood," and "Bone Diseases Occurring Principally in Adult Life." The practitioner who likes to interpret his own patients' films, either in addition to or instead of the readings of the radiologist, will get much that is of practical clinical value from this little volume.—*Orville R. Clark, M.D.*

* * *

Books Received

Penicillin—Its Practical Application. By Sir Alexander Fleming, F.R.C.P., F.R.C.S., F.R.S. 380 pages, 59 illustrations. Price $7.00. Published by the Blakiston Company, Philadelphia 5, Pennsylvania.

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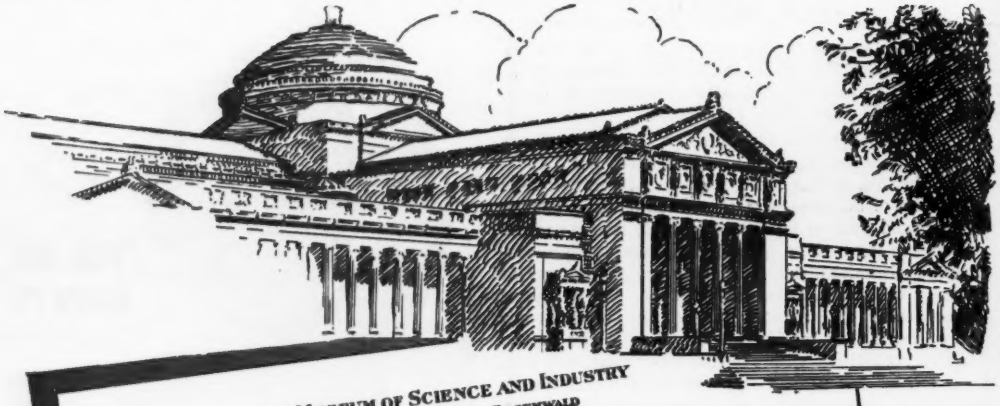

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August 7, 1946

Dear Mr. Fleck:

Today marks the 10th Anniversary of the Transparent Woman exhibit and since the famous "lady" is making her permanent home in our Medical Section, we feel that the day should not be allowed to pass without some comment.

I vividly recall the premier of the Transparent Woman at Rockefeller Center in New York City before a distinguished assembly of physicians, scientists and educators. Its later tour throughout the Nation under the auspices of state and county medical societies and academies of medicine was a significant contribution to public health education. You are to be congratulated not only on your sponsorship of this important and effective exhibit but also on the ethical manner in which it was presented to the laity through the profession.

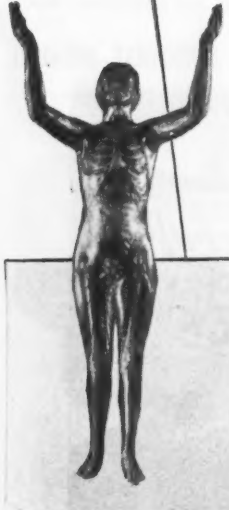
The Transparent Woman continues to be one of the major centers of interest at the museum. Practically all of the 1,026,250 visitors last year made her acquaintance and preliminary 1946 figures show the attendance running higher.

It is fitting on this 10th Anniversary of the Transparent Woman exhibit to again express our appreciation to you for your active interest in the Medical Section.

Cordially yours,

Eben J. Carey

EBEN J. CAREY, M.D., Curator,
Medical Exhibits



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Dedicated at Rockefeller Center in 1936 by world famous figures in medicine, science and education, the *Transparent Woman* has since been viewed by some 50,000 physicians and 16,000,000 laymen. Its steady popularity in the Medical Section of the Museum of Science and Industry verifies our hope that the exhibit will continue to play its authentic role in public health education within the precepts of the medical profession.

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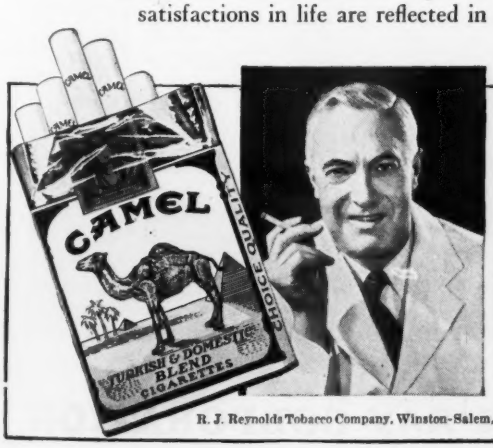

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- **Controllable field of radiation**
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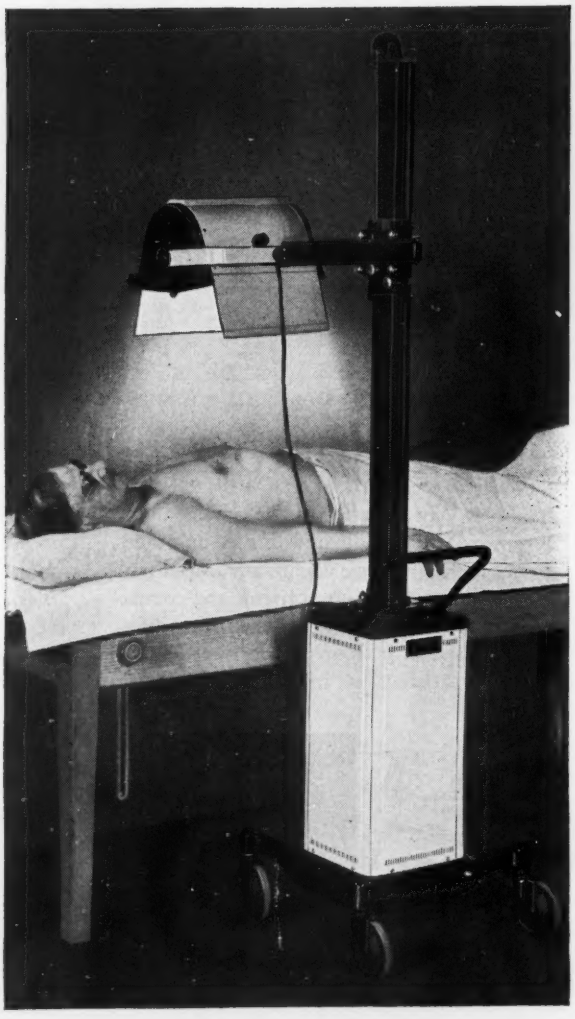
- **Durable and attractive in design and finish . . . a credit to your facilities**



For complete information about the Model G Lamp, write today to General Electric X-Ray Corporation, 175 West Jackson Boulevard, Chicago 4, Illinois. Dept. 2596.

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Yes, doctor, Page Evaporated Milk is ideal for baby's formula. The administration of Page will provide more than the usual amount of vitamin D necessary to prevent rickets in normal infants. Each reconstituted quart of Page supplies at least 400 USP units of the sunshine vitamin.

So when you specify Page Evaporated Milk for infants and growing children you are assuring them all the elements of rich, wholesome milk plus the advantage of the added quantity of vitamin D.

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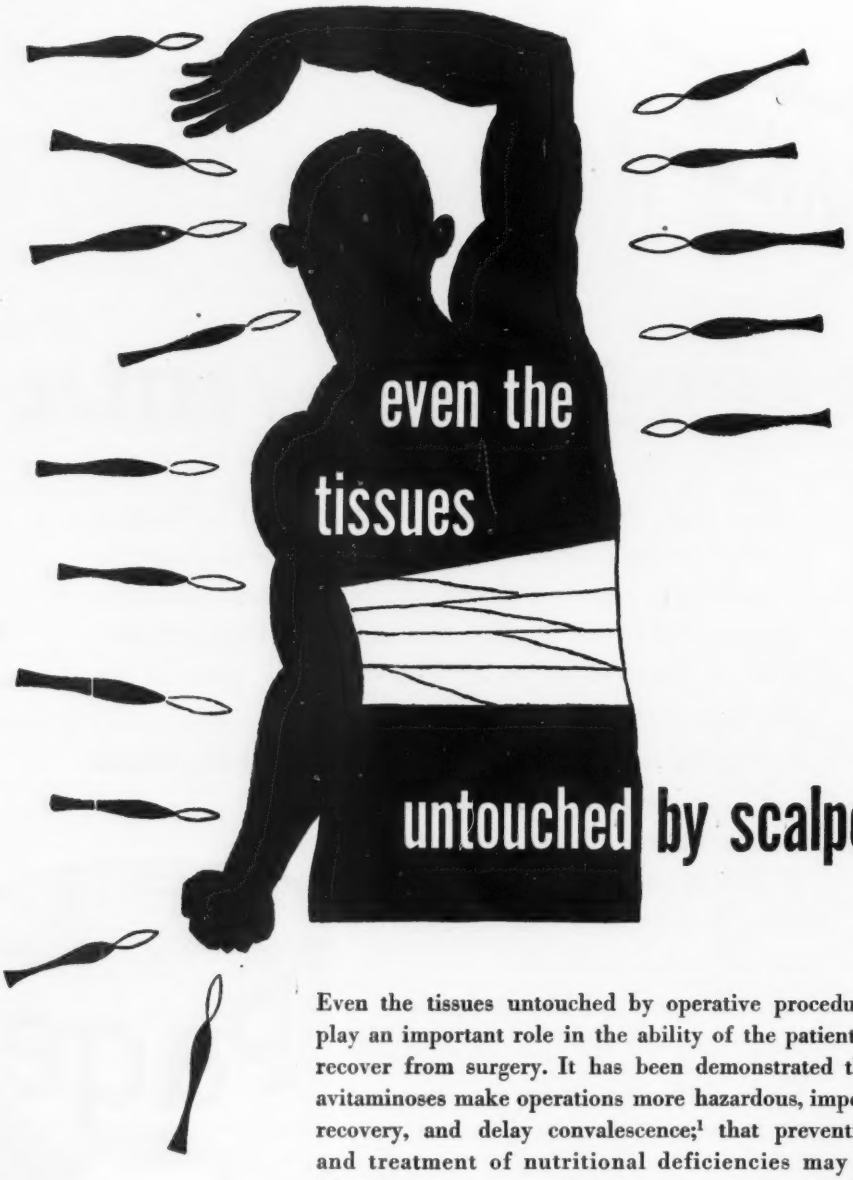

Even the tissues untouched by operative procedures play an important role in the ability of the patient to recover from surgery. It has been demonstrated that avitaminoses make operations more hazardous, imperil recovery, and delay convalescence;[1] that prevention and treatment of nutritional deficiencies may be "decisive"[2] in recovery following surgery. In the field of oral and parenteral vitamins, Upjohn offers a full range of highly potent, convenient to administer, economical vitamins.

1. Virginia M. Monthly, **72**:240 (June) 1945.
2. Am. J. Surg. **54**:299 (April) 1942.

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CARBOHYDRATE	64.8 Gm.	NIACIN	6.81 mg.
CALCIUM	1.12 Gm.	VITAMIN C	39.6 mg.
PHOSPHORUS	0.939 Gm.	VITAMIN D	417 I.U.
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*Based on average reported values for milk.

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1020B PRISM

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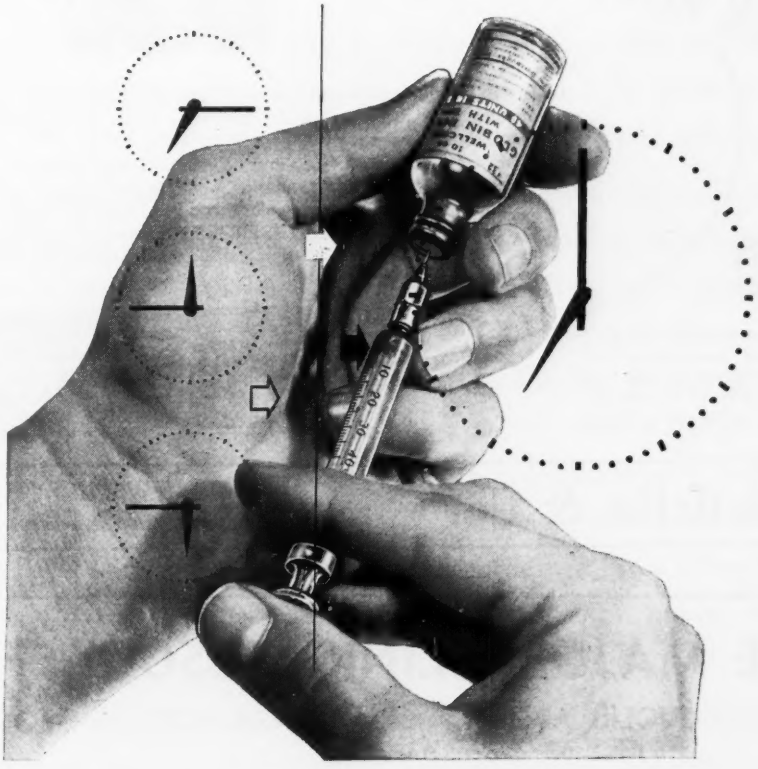

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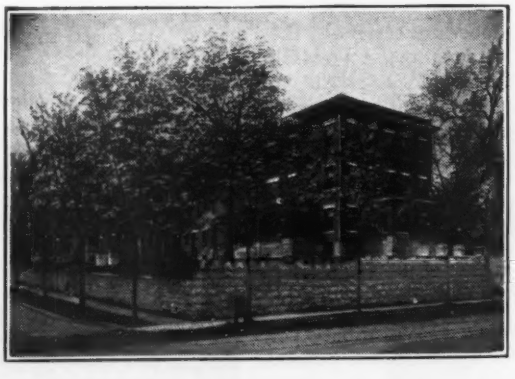

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Protein as a Therapeutic Factor In Infectious Disease

In the recent past, increasing attention has been called to the influence of severe infections upon protein metabolism and the profound destruction of tissue and serum protein which occurs in these states.[1, 2]

In many instances, prompt control of infection by sulfonamides or penicillin is not followed by the desired degree of systemic improvement. Instead, protracted, stormy convalescence supervenes. A factor which is often responsible for delayed recovery is known to be the intense protein depletion which not only accompanies but also follows in the wake of infectious disease. Not infrequently, recovery can be sharply hastened by correction of existing nutritional deficiencies, foremost among them, protein deficiency. A protein intake, adequate both qualitatively and quantitatively, thus gains increasing significance as an integral part of therapy whenever the condition under treatment is known to lead to increased nitrogen excretion.

Among the protein foods of man meat ranks high, not only because it is rich in complete, biologically adequate protein, but also because its palatability and the many attractive ways it can be prepared make it acceptable to most patients.

---

[1] Tillett, W. S., Cambier, M. J., and McCormack, J. E.: The Treatment of Lobar Pneumonia and Pneumococcal Empyema with Penicillin, Bull. New York Acad. Med. 20:142, March, 1944.

[2] Armstrong, S. H., Jr.; England, A. C., Jr.; Favour, C. B., and Scheinberg, I. H.: Anemia and Hypoproteinemia Complicating Severe Protracted Pneumonia: Treatment with Penicillin—Role of Specific Supportive Therapy in Recovery, J.A.M.A. 127:303 (Feb. 10) 1945.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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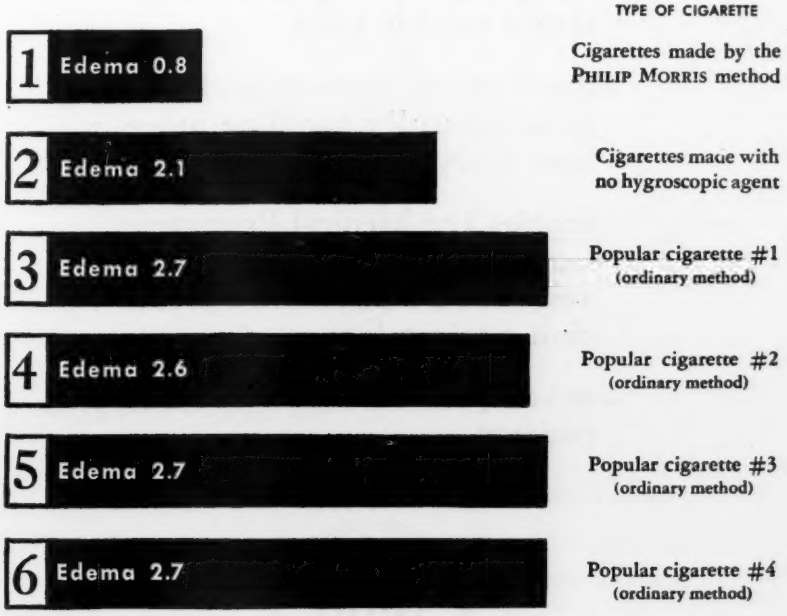
How irritation varies from *different* cigarettes

Tests made on rabbits' eyes reveal the influence of hygroscopic agents*


TYPE OF CIGARETTE
1 Edema 0.8
Cigarettes made by the PHILIP MORRIS method
2 Edema 2.1
Cigarettes made with no hygroscopic agent
3 Edema 2.7
Popular cigarette #1 (ordinary method)
4 Edema 2.6
Popular cigarette #2 (ordinary method)
5 Edema 2.7
Popular cigarette #3 (ordinary method)
6 Edema 2.7
Popular cigarette #4 (ordinary method)

CONCLUSION:* Results show that regardless of blend of tobacco, flavoring materials, or method of manufacture, the irritation produced by all ordinary cigarettes is substantially the same, and measurably greater than that caused by PHILIP MORRIS.

CLINICAL CONFIRMATION:** When *smokers* changed to PHILIP MORRIS, substantially every case of irritation of the nose and throat due to smoking cleared completely or definitely improved.

**N. Y. State Journ. Med. 35 No. 11,590* ***Laryngoscope 1935, XLV, No. 2, 149-154*

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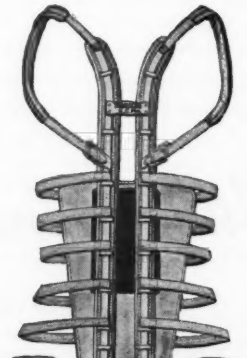

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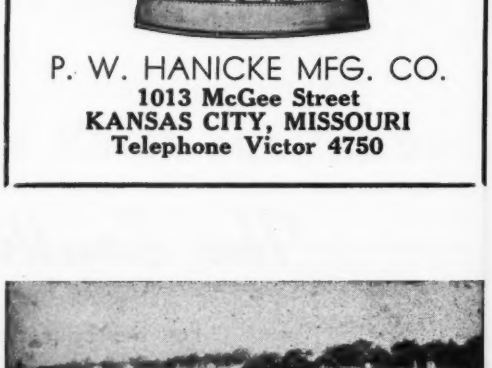

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